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ABSTRACT

This technical report analyzes community characteristics, projects growth, and suggests the development of educational delivery systems to meet Maricopa County Community College District's needs up to the year 2000. Assumptions in this planning effort include: (1) that the base components of the system will be regional campuses planned for 5,000 full-time equivalent day students; (2) that each population region will be served by a campus or learning center; (3) that the bulk of noncampus-centered education and service activities will be organized through the district's "college-without-walls"; (4) that the district will enroll a headcount equal to 3.5% of the area population; (5) that the part-time student ratio will increase from 1.9:1 to 2:1; (6) that new campuses will be opened when the service area population reaches 170,000; and (7) that each campus will have its own special programs or learning systems. The district service areas are described as is the current educational delivery system. Recommendations entail the expansion of existing campuses and of specific facilities. Campus development costs are also outlined. Data tables and illustrations are included throughout the document and appendices contain definitions of service areas and a list of data sources. (MB)

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ED167200

LONG RANGE

MASTER PLAN FOR

MARICOPA COUNTY

COMMUNITY COLLEGE DISTRICT

1978 – 2000

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PREPARED FOR:

MARICOPA COUNTY COMMUNITY
COLLEGE DISTRICT
PHOENIX, ARIZONA

PREPARED BY:

TADLOCK ASSOCIATES INC. (TAI)
LOS ALTOS, CALIFORNIA

MAY 1978

JC 790 142

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The planning offices of both the city of Phoenix and Maricopa County provided data, graphics, and maps as well as professional guidance in discovering additional information.

Chancellor Paul Elsner and the presidents of the various campuses were unstinting in their efforts to help us find and interpret key elements.

To Vice Chancellor Alfredo de los Santos goes special thanks for assistance in dealing with educational issues facing the District. Mike Svaco provided through the division of research and analysis special background information.

A very special thanks goes to Dr. C. B. Smith, District facilities planner and director. As a result of his intensive study of District needs and his willingness to share his materials, he was able to help us focus quickly on the central facilities issues and to meet some deadlines that would have been impossible without his experience and dedication.

CONTENTS

	ACKNOWLEDGEMENTS	ii
I	INTRODUCTION TO THE STUDY	1
	Limitations of the Study	1
	Definitions	3
	Planning Assumptions	4
II	THE DISTRICT SERVICE AREA	7
III	CURRENT EDUCATIONAL DELIVERY SYSTEM	12
	Service Area Population As A Basis for Campus Development	18
	Population Distribution and the Impact on Campus Development	21
IV	RECOMMENDATIONS	26
	Expansion of Existing Campuses	26
	Glendale Community College--Facilities	27
	Mesa Community College--Facilities	29
	Phoenix College--Facilities	31
	Scottsdale Community College--Facilities	33
	Expansion of Maricopa Technical Community College	35
	The Allied Health Center	35
	Rio Salado Community College	36
	The Regional Campuses	38
	The Special Area Campuses	38
	South Mountain Community College	40
V	CAMPUS DEVELOPMENT COSTS	44

CONTENTS

APPENDIXES

A DEFINITIONS OF SERVICE AREAS

B DATA SOURCES

ILLUSTRATIONS

Figures

1 The Phoenix Metropolitan Service Area 8

2 Major Physical Characteristics of the District 9

3 Existing Service Areas Shown as Six-mile Radii 13

4 Existing Campus Service Areas 15

5 Network of Possible Service Areas 25

6 Rio Salado Service Area 37

7 Recommended New Campus Sites 39

A Maricopa County Community College Service Area A-1

A-1 Glendale Service Area A-3

A-2 Litchfield/Goodyear Service Area A-5

A-3 Mesa/Tempe Service Area A-7

A-4 Phoenix Service Area A-10

A-5 Scottsdale Service Area A-12

TABLES

1	Percentage of College Enrollment from Six Population Areas	16
2	Summary, Population Distribution by Geographical Regions 1975-2000	17
3	Service Area Population	18
4	Resident Population by General Service Areas	21
A-1	Population of Glendale Service Area 1975-2000	A-4
A-2	Population of Litchfield/Goodyear Service Area 1975-2000	A-6
A-3	Population of Mesa/Tempe Service Area 1975-2000	A-8
A-4	Population of Phoenix Service Area 1975-2000	A-11
A-5	Population of Scottsdale Service Area 1975-2000	A-13
A-6	Population of South Mountain Service Area 1975-2000	A-15

I INTRODUCTION TO THE STUDY

This report is the first of a number of documents which will comprise the master plan for Maricopa County Community College District (MCCCD). It is a technical report, produced by Tadlock Associates Inc. (TAI), which analyzes community characteristics, projects growth, and suggests the development of a network of educational delivery systems to meet community needs up to the year 2000.

In the main it is a synthesis from materials developed by the MCCCD planning and research staffs, by the county planning office, by the Maricopa Association of Governments (MAG) planning office, and by a number of organizations engaged in community analysis--fiscal institutions, utilities, the chamber of commerce, the Phoenix Gazette. It also reflects TAI's experience in planning other multi-campus districts and national trends in improved educational delivery systems.

The report was produced concurrently with a set of tentative educational priorities developed by the Joint Committee for Educational Priorities (JCEP). Both documents are designed as recommendations to the Board of Trustees and to the various staffs of the District. They will both require continuous updating to respond to changing conditions in the district-at-large and on the campuses in particular.

Limitations of the Study

This study does not contain a detailed analysis of the specific facility needs for the existing and proposed campuses. Much of such work has already been completed by the District planning staff and TAI finds the results well supported technically.

Two things are missing in current campus planning in TAI's judgment, however. One is sufficient participation by campus staffs to gain their confidence and support in whatever the campus facilities recommendations are to be. The second is a focus on educational planning so that educational

priorities and responsibilities can be set for each of the campuses and other delivery units before facility recommendations are made. Until basic planning to determine the desired scope and characteristics of the educational program is undertaken, the District will find itself basing its decisions on a political rather than an information base. Campuses will be vying for funds to complete earlier plans that may no longer be viable; communities will be pressuring the Board for facilities that cannot realistically be defended from a programmatic point of view.

This study then is only a portion of a total districtwide master plan. It organizes community growth characteristics in such a way that the long range capital needs of the District can be anticipated. Thus site acquisition activities can be initiated to avoid further increased costs in the current inflation spiral.

In the planning process, TAI used the following key definitions and planning assumptions. Their significance becomes apparent as one progresses through the report.

Definitions

- Regional Campus (Glendale, Mesa, Phoenix)
  - -- Planned for a maximum of 5,000 DFTSE (day full-time student equivalent)
  - -- Provides substantial alternatives in transfer, vocational, and enrichment programs
  - -- Houses districtwide programs such as Allied Health, which require major facility commitments and a full complement of related courses and programs.
- Special Service Area Campus (Scottsdale, South Mountain, Maricopa Technical)
  - -- Planned for a minimum of 2,000 FTSE
  - -- Limited in program and facilities by virtue of limited size of service area population
  - -- May rely on other campuses or institutions or organizations for some programs and services.
- College-without-walls (Rio Salado)
  - -- Not limited by size
  - -- A system, not a place or a faculty, for delivery of educational programs and services through alternatives to the campus
  - -- Provides for most off-campus offerings in the District, credit and noncredit
  - -- Provides additional programs, coordinated with the campus programs, in all of the service areas
  - -- Serves to test the feasibility of some programs prior to their being placed on a campus
  - -- Has enormous flexibility with the capability of rapid response to community needs.

Planning Assumptions

To provide consistency in the planning effort, TAI has developed a number of assumptions from District and national trends which provide the logical base on which decisions may be made. Such assumptions are, of course, subject to change. And if changed will affect the end planning product--the Master Plan.

TAI encourages the District to continuously reevaluate these assumptions, changing them when careful analysis indicates that they may be improved or discarded if no longer consonant with District policy.

General Assumptions

1. That Maricopa County will be considered both an area to be served and a major resource which can provide talent, facilities, and equipment through partnership with the various elements in the communities to expand the educational capabilities of the District.

2. That the District will develop a network of educational delivery components--campuses, community learning centers, off-campus sites, radio and television, newspaper, etc.--to make education readily accessible to all the residents of Maricopa County.

3. That each component of the network will be considered an integral part of a single system, supporting and being supported by the other components.

4. That the basic components of the system will be regional campuses--major campuses planned for 5,000 full-time student equivalents (day) and placed to serve a general region of the District.

5. That each significant population region of the District will be served by either a regional or a special area campus or learning center. Regional campuses will be developed only where topography, transportation networks, and demographic characteristics suggest sufficient enrollment to support a full service campus.

6. That such special area or population needs as are found in South Phoenix and Sun City or in the "Snowbird" migrations of winter residents will be met with special campuses or delivery systems aimed at serving these needs.

7. That the bulk of the noncampus centered educational and service activities will be organized and delivered through the District's noncampus college, Rio Salado College, a "college-without-walls."

Specific Assumptions

1. That all campuses will be planned on the basis of projected day full-time-student-equivalent (FTSE) enrollment.

2. That the District through its various sites can expect to enroll a headcount equal to 3.5 percent of the area population (headcount enrollment = .035 x population of service area).

3. That the District will slightly increase its part-time student ratios. The current 1.9 to 1 will change to 2 to 1. (A formula for converting population of the area served to projected day FTSE for the 2:1 ratio is day FTSE = .012 x population.)

4. That regional campuses will be master planned for 5,000 day FTSE.

5. That new campuses should be planned to open when their service area population reaches 170,000. This first phase enrollment should equal 2,000 day FTSE.

6. That each campus will have its own hallmark--special programs or special learning systems or learning environment--which distinguishes it from the others and provides students from anywhere in the District an alternative in program or learning style.

7. That as the District expands geographically, the need to expand vocational offerings on the campuses will also grow with the result that Maricopa Technical Community College will lose student enrollment.

II THE DISTRICT SERVICE AREA

The single most important planning characteristic about the Phoenix area[1/] is its growth. The map following shows the urban area more than doubling its size between 1978 and the year 2000.

Geographically it is already a sprawling urban area with few unrestricted traffic arterials. By the year 2000 it would appear that movement from one area to another will be increasingly difficult. The rationale which led to the existing campuses was based in part on this difficulty of crosstown transportation. The campuses were a generally successful attempt to place college services within reasonable traffic distances of large populations.

On the map, page 9, TAI has indicated some of the major physical characteristics--traffic arteries, terrain features, and special areas which have a definite impact on MCCCD planning.

Of terrain features, the Salt River is most important. It affords few crossings and the approaches to most of these are designed to wash out in serious flood stages, one of which occurred in 1978.

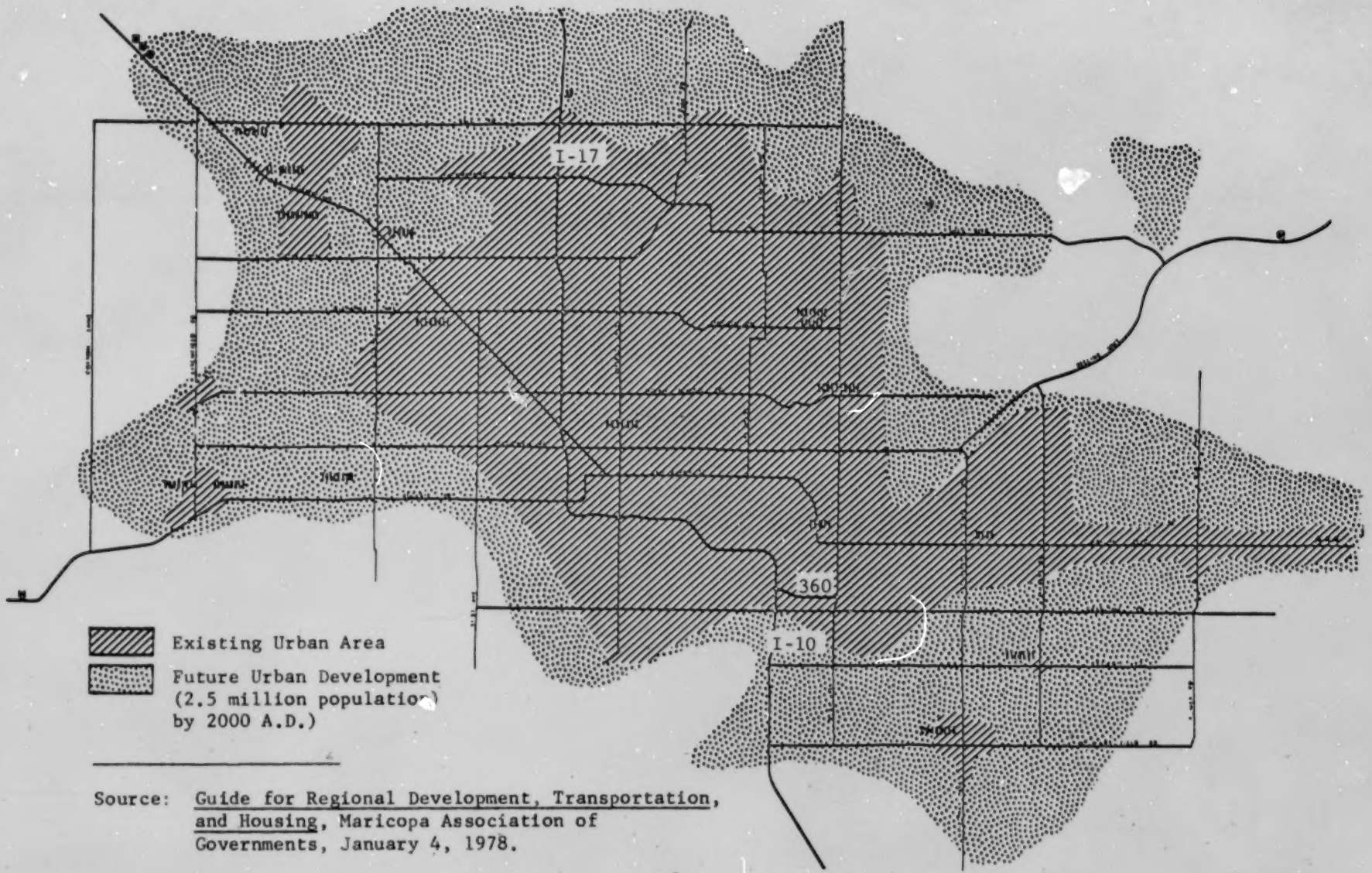
Freeway I-17 connecting with I-10 is the only rapid north-south route. No rapid east-west route will exist until I-10 is completed and the extension of State Highway 360 past Mesa Community College is finished. The shaded areas marking planned transportation corridors have not progressed beyond preliminary planning and could remain nothing more than planning concepts in the foreseeable future.

As can be noted on the preceding metropolitan area map, the growth of the perimeter areas will follow the east-west freeway axis and the northern corridor served by I-17.

1/ For planning purposes, TAI has considered Maricopa County and the Phoenix metropolitan area as synonymous.

Figure 1

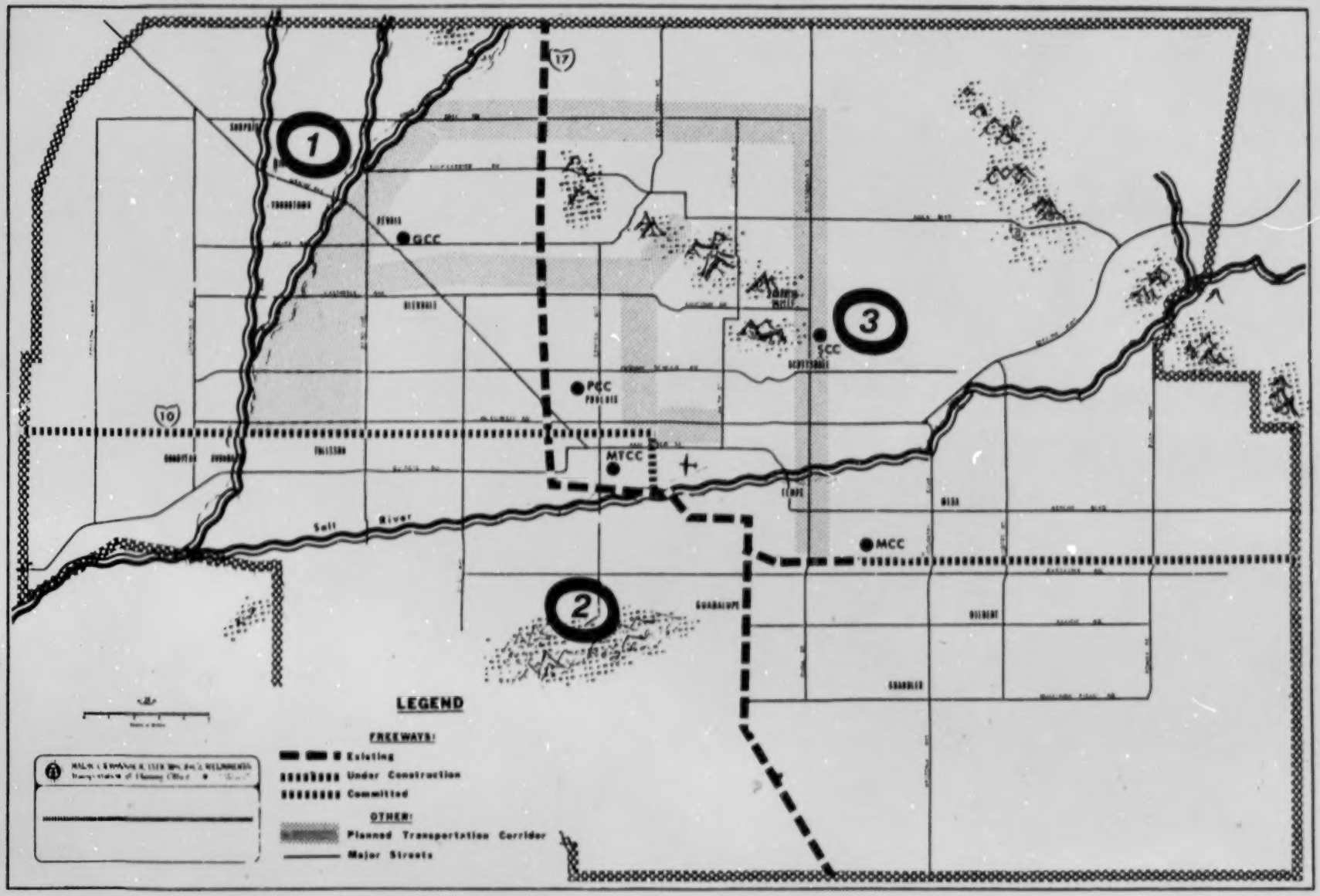
THE PHOENIX METROPOLITAN SERVICE AREA



Source: Guide for Regional Development, Transportation, and Housing, Maricopa Association of Governments, January 4, 1978.

Figure 2

MAJOR PHYSICAL CHARACTERISTICS OF THE DISTRICT



Three special areas are noted on the map.

1. The Sun City Area

An explosive growth area, it is being developed as a retirement city. Few of its population will be seeking educational assistance in career entry, upgrading, or re-entry. Probably few of its population will seek degree granting programs. Leisure skills and activities will probably be high on their priorities.

In short, despite the population numbers to be found there, this area will likely have little impact on actual campus development. However, it is a prime target area for the college-without-walls concept. Local community facilities are available in which to house courses, programs, and services.

2. The South Phoenix Area

This area is bounded by the Salt River on the north and mountains on the south. Often local residents include the "Old Phoenix" downtown area just north of the river as part of South Phoenix. For planning purposes, TAI is considering both areas as a single service area.

The population is over 50 percent minority and has the lowest household income level in the metropolitan area. The area residents feel as though they do not get their fair share of community services and the appearance of the area confirms their suspicions. Roads are ill-maintained, little apparent zoning or architectural control has been established, and community services are scattered widely.

There is no physical feature--building, park, or shopping center--which gives a sense of community. Nor does there seem to be an area-wide effort which can generate a sense of community. What does exist for many is the common bond of need for services and need for a community focal point.

Growth potential is limited by both the terrain features and the area's physical, sociological, and economic isolation from the metropolitan mainstream.

3. The Scottsdale Area

This area has a national reputation as an area of fine homes, resorts, and shops. Although at the opposite end of the economic scale from South Phoenix, it has some common planning characteristics with that area.

First, the traffic system into and through the Scottsdale area is congested and slow. Second, a physical barrier--the Indian reservation to the east--physically blocks any growth in one major direction. Third, the economic and zoning characteristics of the area preclude high density population growth.

If the north-south transportation corridor outlined along Pima Road were actually developed, the area northeast of the mountains in the Scottsdale region could be expected to grow much faster than at the present rate. However, large lot zoning in this area will preclude its ever being a high density area. Currently it provides only a few students to Scottsdale Community College.

From a line about four miles south of the campus, few students opt to go north to the Scottsdale campus. Most go south to the Mesa campus.

III CURRENT EDUCATIONAL DELIVERY SYSTEM

Currently the District's educational delivery system is built around four service area colleges and one districtwide technical college. Each of the service area campuses is shown on the map following. Schematic representations of their service areas are shown as circles 12 miles across or slightly over 100 square miles. The District planning office has used such circles as preliminary descriptors of the service areas in its planning analyses.

The split circle represents the potential service area for the South Mountain Community College (SMCC), authorized by the Board in April 1978. Note: The placement of this circle and of the star which designates the centroid of the service area do NOT indicate a recommendation or suggestion by TAI for the placement of whatever facilities will constitute the South Mountain campus.

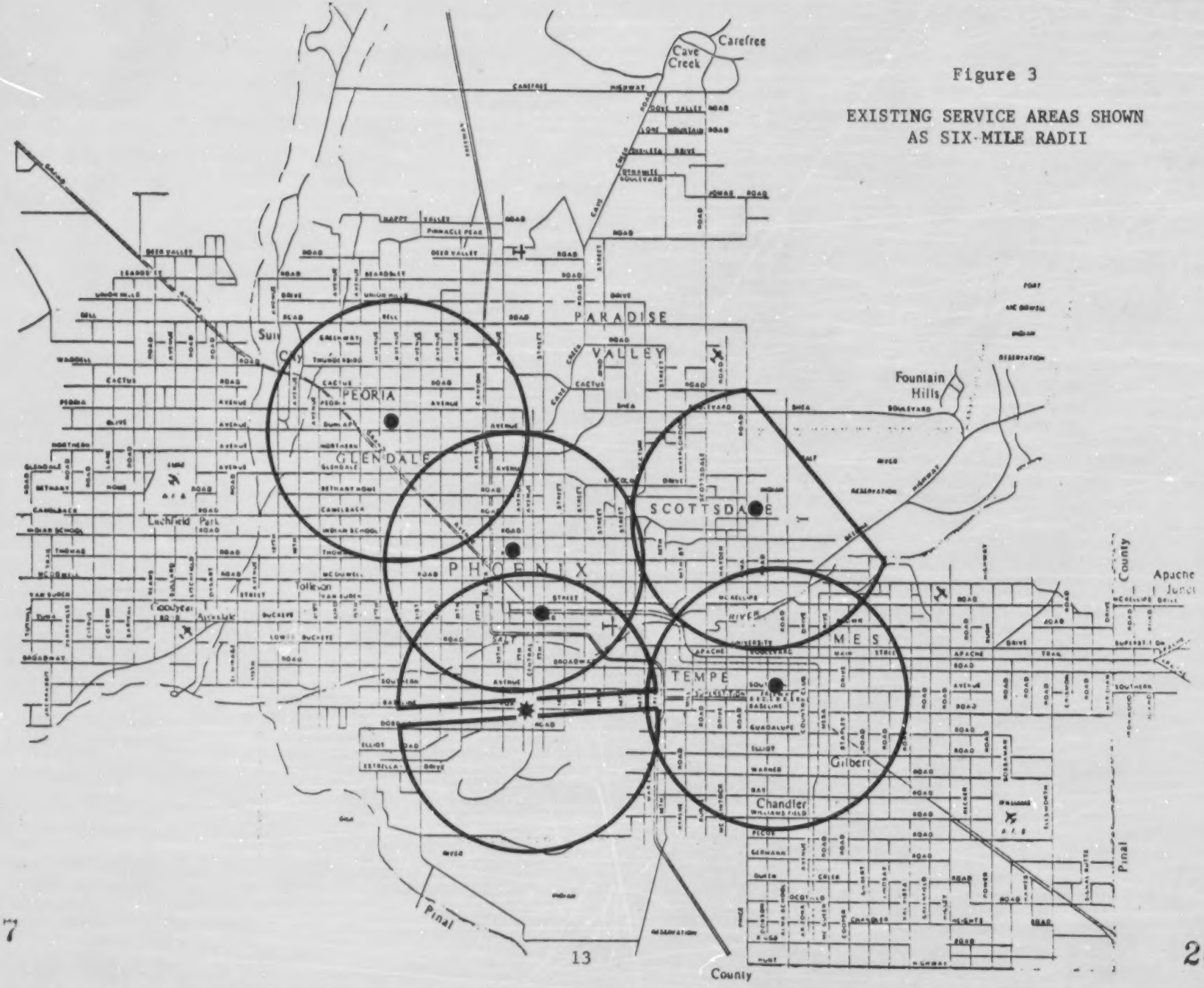
In the past, each of the campuses has offered courses and programs off-campus as well as on. Beginning with the Summer of 1978, however, the bulk of such off-campus offerings will be under the aegis of Rio Salado Community College (RSCC), also newly authorized by the Board in April 1978. Rio Salado will be a system for educational delivery--not a fixed place. It is described further in the definition of a "college-without-walls" in Chapter I and in Chapter IV.

Maricopa Technical Community College, because it is a districtwide school and located within the center of the metropolitan area, falls within the Phoenix service area. Because it is districtwide, no service area circle has been drawn for this school.

More useful in discovering where the various campuses have a significant draw on population are service areas based on zip code analyses of current enrollments. The District planning office has conducted such an analysis. TAI used these figures to plot the draw of each campus.

Figure 3

EXISTING SERVICE AREAS SHOWN
AS SIX-MILE RADII



On Figure 4, the broad solid lines separating the campuses are plotted to show those areas where a college is pulling at least 50 percent of the students enrolled from that area. The dotted lines indicate discrete population regions derived by TAI from MAG's Community Aggregate Planning Model (CAPM): Glendale, Mesa, Phoenix, Scottsdale, South Mountain.

The percentage indicated in those population regions is the percentage of the service area college's total enrollment which is drawn from that population area. The Glendale area is split into two parts, with the Litchfield/Goodyear or southern portion treated as a separate statistical area. Phoenix also is split to separate the South Phoenix area to facilitate the planning of South Mountain.

On the map no percentage below 10 percent is recorded. Complete percentages rounded off are shown in the accompanying table. A summary of current and projected populations for these geographical regions is found in Table 2. Detailed figures for each component are found in the appendix.

Like most community colleges, Maricopa Tech draws the bulk of its students from the immediately surrounding areas. However, because it offers some unique vocational education opportunities, it draws students from every part of the District. The MTCC overlay transparency includes all those areas from which MTCC drew 10 or more students during Fall 1978.

EXISTING CAMPUS SERVICE AREAS

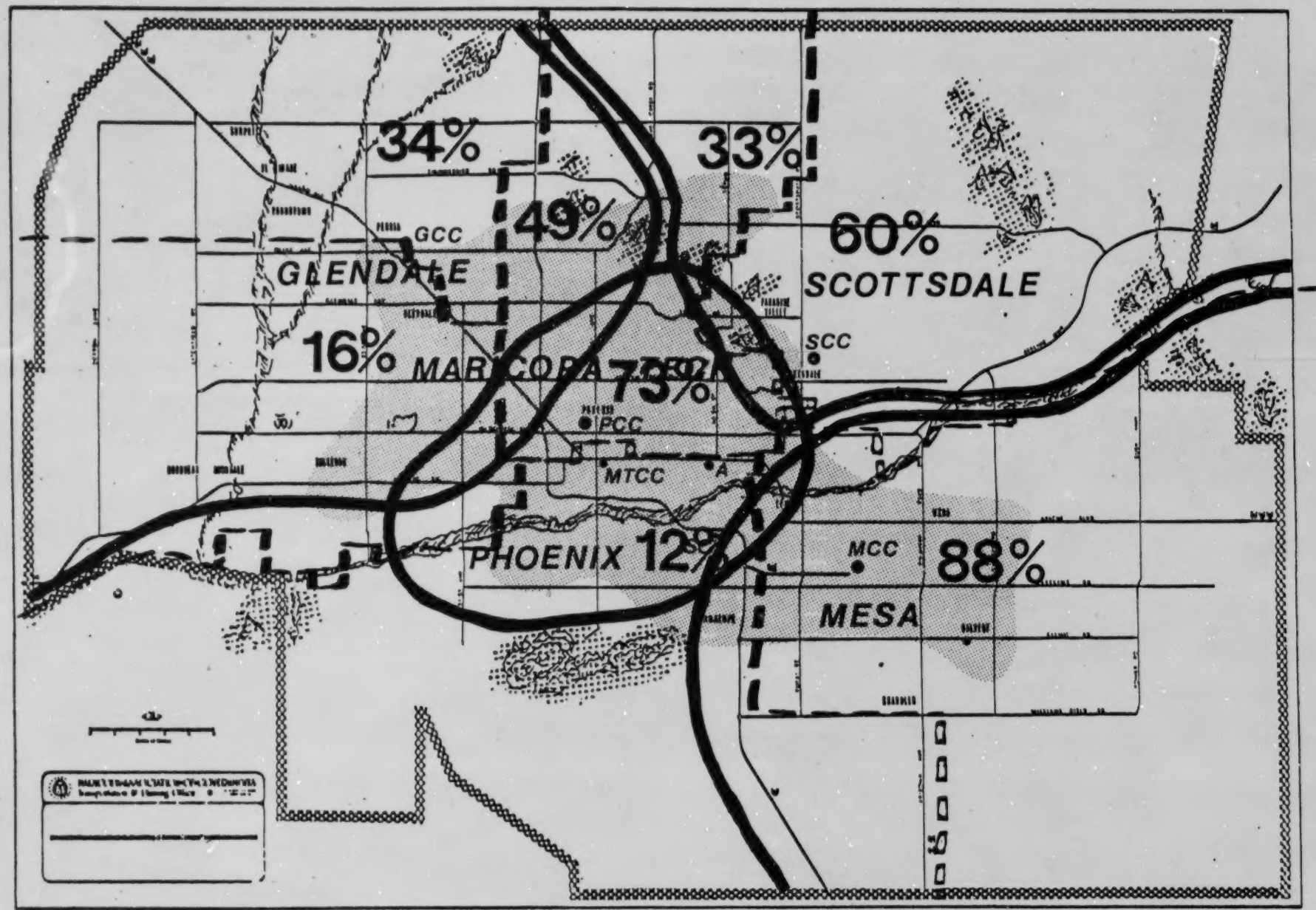


Table 1

PERCENTAGE OF COLLEGE ENROLLMENT FROM SIX POPULATION AREAS

College	Total Enrollment	Population Area					
		Glendale	Litchfield/ Goodyear	Mesa/ Tempe	Phoenix	Scottsdale	South Mountain
Glendale	5,512	34%	16%	2%	49%	1%	7%
Maricopa Technical	1,649	6	9	9	48	4	24
Mesa	5,648	0.3	0.7	88	3	4	4
Phoenix	5,885	4	7	2	73	2	12
Scottsdale	3,179	0.3	0.3	6	33	60	0.6
Total Enrollment	21,873						

Source: Computed by TAI from MAG/CAPM data and MCCCD data, May 1978.

Table 2

SUMMARY
POPULATION DISTRIBUTION BY GEOGRAPHICAL REGIONS
1975-2000

Region	1975 (Estimate)	Projected 1980	1985	1990	1995	2000
Glendale	147,094	180,970	224,552	272,379	314,323	360,993
Litchfield/Goodyear	120,190	133,380	155,063	200,921	245,777	295,707
Mesa/Tempe	276,600	347,200	429,940	491,800	553,800	622,600
Phoenix	478,234	505,000	540,445	576,400	618,700	658,400
Scottsdale	93,532	105,650	118,345	126,000	136,000	150,500
South Mountain	113,670	113,300	119,500	131,700	146,400	171,800
Total Population	1,229,320	1,385,500	1,587,845	1,799,200	2,015,000	2,260,000
Capacity potential of existing campuses	1,588,000	1,588,000	1,588,000	1,588,000	1,588,000	1,588,000
Population to be served by new campuses				211,200	427,000	672,000

Source: Computed by TAI from MAG/CAPM data and MCCCD data, May 1978.

Service Area Population As A Basis for Campus Development

To establish a baseline from which to project enrollments, TAI determined MCCCD's historic "draw" or percentage of the population enrolled in community colleges. Table 3 shows that over the past six years the District has enrolled about 3.5 percent of the county's population. (TAI accepted the premise that the greater metropolitan Phoenix area and Maricopa County are virtually synonomous.) This draw is expressed in terms of headcount (HC), total full-time student equivalent (FTSE), and day FTSE (DFTSE).

Table 3

Year	Metropolitan Phoenix Resident Population[1/]	MCCCD Enrollment[2/] As Percent of Population		
		Headcount	FTSE	DFTSE
1972	1,067,000	3.16	1.88	1.23
1973	1,173,000	3.16	1.73	1.03
1974	1,220,000	3.57	1.94	1.14
1975	1,267,000	3.92	2.28	1.32
1976	1,303,000	3.71	2.07	1.26
1977	1,360,000	3.66	1.98	1.20

1/ Inside Phoenix, Phoenix Newspapers, Inc.--The Arizona Republic and Phoenix Gazette, 1977, p. 8.

2/ TAI computed the draw using 45th day enrollments recorded in Fact Book, Maricopa Community College District, Fall 1977, p. 6.

From this analysis of the District's enrollment patterns, TAI established two planning guidelines--1) as a rule of thumb the District can expect to draw 3.5 percent of the population overall but it cannot measure any one service area by this guideline alone; 2) as part-time enrollment increases, the District should assume a 2:1 ratio of part-time enrollment to full-time enrollment. On the basis of its experience with the ratio of day FTSE to total FTSE, the District can compute the day FTSE potential of any service area by multiplying the population of the service area by the day FTSE draw--the factor .012 (1.2%).

After studying the District's present level of service and MAG's projections for population increases, TAI concluded that the District must follow population forecasts with care and note two especially significant points in a given service area's growth. When the population of a service area is assured of reaching 170,000 the District should, in TAI's estimation, give serious consideration to establishing a core campus. A population of 170,000 should produce 6,000 enrollments (headcount), 2,975 FTSE, and 2,040 DFTSE. TAI believes that this level of enrollment is sufficient to justify and maintain economically a campus operation. Although the special demographic and topographic features of each service area have to be examined before any campus facilities planning begins, TAI recommends that, in general, the core campus include

- classroom and laboratory spaces
- library/learning resources center
- student services center
- administrative/faculty offices
- physical education facilities without major sport facilities
- parking for 1,200 cars
- support facilities following District guidelines.

Phase two of development should proceed when the service area is assured of a population in excess of 285,000. At this level of population, the college can expect approximately 10,000

enrollments (headcounts), 5,000 FTSE and 3,420 day FTSE. At this point, a full service campus should be under way. Here too TAI cautions the District against trying to duplicate one successful campus facilities plan in other locations. With that proviso, TAI believes that the facilities of a full-service campus would generally include in addition to the core facilities:

- expanded vocational/technical spaces
- expanded physical educational facilities with the addition of selected sport facilities
- expanded classroom and laboratory spaces
- expanded student services facilities
- an instructional resource center
- parking for 3,000 cars
- support facilities following District guidelines.

Note: The facilities development of any campus should follow the educational program demands. As has been noted elsewhere in this report, the District has not completed an educational master plan. Therefore it is certainly imprudent to recommend at this time <u>specific</u> facilities for a particular campus.

Population Distribution and the Impact on Campus Development

An examination of Table 4 shows some key numbers that must be dealt with if the District is to match the population growth of the area with educational facilities.

The service areas shown are arbitrary statistical divisions of the metropolitan area derived by TAI from MAG's CAPM data. (See the appendix for CAPM zones.) The outlines are shown in Figure A and further described in the text accompanying that figure. TAI has attempted to reflect the following in defining the service areas: the city or area name commonly used to describe the area, the transportation network and/or topography which tends to consolidate areas, patterns of expansion or development, and general demographic characteristics.

Table 4

RESIDENT POPULATION BY GENERAL SERVICE AREAS
1980-2000

Service Area	1980	1990	2000
Glendale	181,000	272,000	361,000
Litchfield/Goodyear	133,000	201,000	296,000
Mesa/Tempe	347,000	492,000	623,000
Phoenix	505,000	576,000	658,000
Scottsdale	106,000	126,000	151,000
South Phoenix	113,000	132,000	172,000
Totals	1,385,000	1,799,000	2,261,000

Source: Compiled by TAI from MAG/CAPM data, May 1978.

There are several useful ways to utilize these figures. One is to compute how many campuses would be needed to serve the metropolitan area if the District were committed to utilizing only full regional campuses with a capacity of 5,000 day FTSE. To derive these we multiply the totals by .012 (the day FTSE draw) and divide by 5,000.

5,000 Day FTSE Campuses Required to Serve Total Projected Population

	1980	1990	2000
Total day FTSE	16,620	21,588	27,132
Regional campuses needed	3.32	4.32	5.43

If the community college services could be appropriately delivered through only a network of large regional campuses, this table shows that no new campuses would be required until 1990, presuming that existing campuses were brought up to full 5,000 day FTSE capacity. Thus Glendale, Mesa, Phoenix, and Scottsdale plus 1,600 day FTSE enrolled elsewhere (MTCC, South Mountain, Rio Salado) could, if desired, handle the load.

However, presently none of the existing campuses is operating at 5,000 day FTSE nor can they be expected to do so without some facilities expansion. Further, and more importantly, the District does not lend itself to such a simple solution.

For example, any reasonable service area definition for the Scottsdale campus will yield only 1,800 day FTSE in the year 2000.* The campus is poorly located to draw from either the Phoenix or Mesa/Tempe areas because of both traffic network and community orientation, and is shielded from population growth to the east by large low-density Indian reservation lands.

*Note: This enrollment is computed on the planning parameters set for district-wide planning. It does not reflect the current enrollments or the special drawing power of this campus.

The District presently has only three campuses which fit the regional campus definition: Glendale, Mesa, and Phoenix. Scottsdale and MTCC are and will continue to be considerably less, as will whatever delivery system is developed for South Phoenix. (Note that South Phoenix has the population forecast to yield 2,000 day FTSE by the year 2000 but it must share a great deal of this enrollment with MTCC.)

A further disadvantage of the simplistic solution is that it diminishes the options both for students and the District. In TAI's estimation students from throughout the District should have a number of educational options--traditional or nontraditional programs, large or small campuses, or even programs brought to them without a formal campus structure.

Two other reasons bring TAI to recommend against the simple regional campus solution. One, it is less expensive to the society at large to place campuses within short and easy commuting distance of the population to be served. Travel time of each individual, the additional load on the city streets, and the actual cost of vehicular traffic by mile are all costs which the society ultimately shares, either in energy consumption or loss of productive time. In vehicular costs alone the cost is staggering in having a population drive an additional five miles. For example, a 2,000 day FTSE campus will normally generate a minimum of 3,600 automobile trips a day, Monday through Friday. The cost for this item alone per day would be--3,600 trips x 10-mile round trips x $0.17 per mile = $6,120.00 (minimum).

The second reason TAI recommends against the total regional campus concept is that the District loses flexibility with such a system. For example, if the Scottsdale campus had been built as a 5,000 day FTSE campus, a tremendous investment in the District's resources would have been committed to the wrong location. In rapid growth areas like Phoenix, it is difficult to know the ultimate directions growth or decline will take.

Therefore in TAI's estimation, the District can best hedge against future growth by initiating services through special service area campuses which have the minimal size to function efficiently (Scottsdale is an example) if no further major growth is anticipated, but which can readily be expanded to regional campus size if population growth warrants.

TAI is recommending, therefore, a mix of regional and special area campuses which, with Rio Salado, effectively cover the District service area.

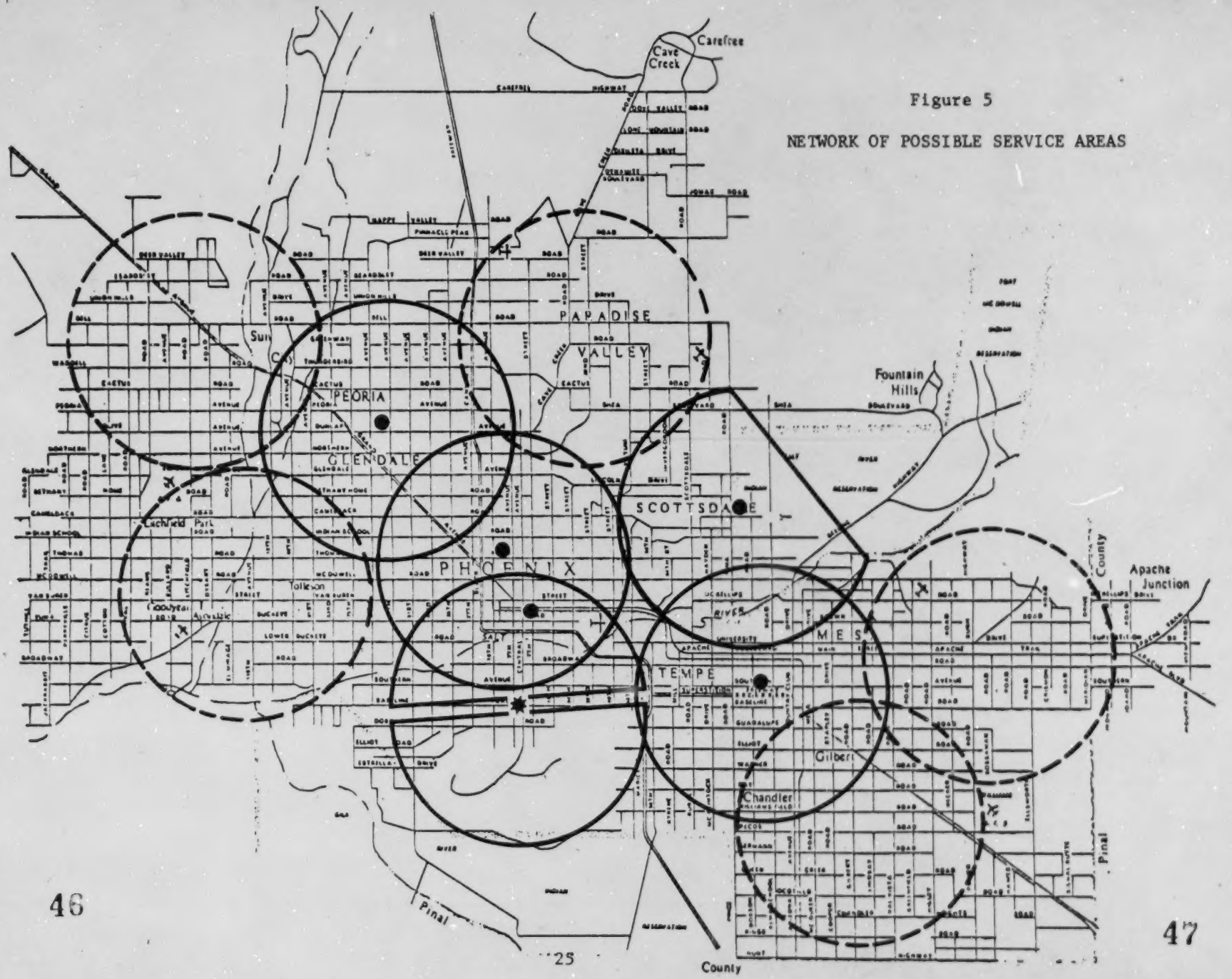
TAI is not recommending the construction of major campuses within every ten miles across the District. Rio Salado gives the District an inexpensive alternative to the proliferation of campuses. Through Rio Salado, educational centers can be established in leased or borrowed facilities wherever the need arises. And when the population warrants, a special area campus can be constructed (or modified from existing facilities) to pick up the programs begun by Rio Salado in the area.

On the map following TAI has shown the metropolitan area as a network of 100 square mile service areas. This does <u>not</u> constitute a recommendation to place a campus in each circle. The circles with solid lines are drawn around existing campuses; the dotted lines indicate service areas not containing a campus. Of these latter, only three show the enrollment potential within the near future for further campus development.

These three are described in the section on recommendations.

Figure 5

NETWORK OF POSSIBLE SERVICE AREAS



IV RECOMMENDATIONS

Expansion of Existing Campuses

The recommendations in this report deal only with major characteristics of the districtwide delivery system. To drop to the next level below the District requires that much additional work be done in educational planning.

It is impossible for TAI in the absence of a districtwide educational plan to judge whether it is appropriate for Scottsdale to have a music building, Mesa to expand its vocational facilities, or Glendale to reorganize its physical science building. Therefore we have accepted the District plans for expansion of the campus facilities as appropriate to meet the enrollment and program needs already identified by the campus and District staffs. We have no major reservations about these recommendations.

The pages following describe each of the three regional campuses and Scottsdale and list the campus improvements suggested by the District planning staff.

GLENDALE COMMUNITY COLLEGE--FACILITIES

Location: Olive Avenue at 59th Avenue, Glendale

Site: 160 acres

Capacity: Planned enrollment 5,000 DFTSE
Current enrollment 4,636 DFTSE
Planned teaching stations 112
Current teaching stations 110
(Includes temporarily assigned classrooms)

Parking: Planned spaces 4,200
Current spaces 2,621 (458 additional spaces being completed)

Total Existing Square Feet:

Building	Square Feet	Building	Square Feet
Administration	5,832	Stadium	6,340
Storage (2 metal buildings)	1,000	Student Center	37,764
Bookstore, Offices	6,804	Swimming Pool (bath house)	2,500
Business	17,496	Technology	22,680
Faculty Office Buildings	9,432	Automotive Laboratory	11,371
Fine Arts	17,222	Classroom Building (temporary)	11,371
Greenhouse, Pot House (2 buildings)	840	Student Office Building	1,600
Gymnasium, Annex, Locker Building	36,868	Classroom Building	16,185
Library	39,546	Performing Arts Center	17,886
Music	9,453		
Science	27,535	Total Square Feet	328,696
Science, Nursing	28,971		

Planned Additions and Expansion:

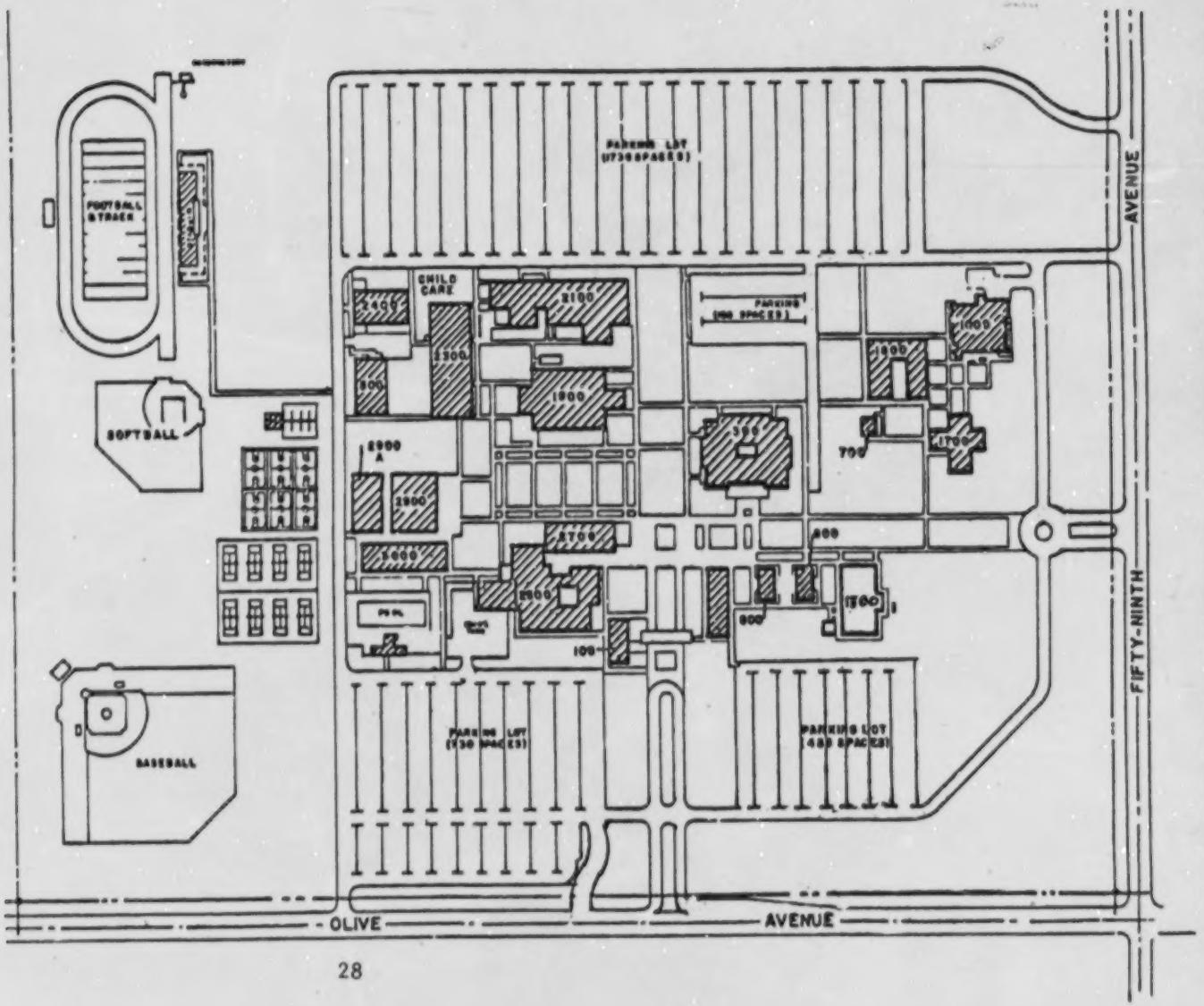
1. Expand Central Plant
2. Classroom/Student Services Building
3. Women's Physical Education facility
4. Develop Education Center
5. Expand and remodel Bookstore
6. Remodel Administrative facility
7. Remodel Physical Science Building
8. Auditorium

Capital Investment (as of 6/30/77) $12,111,446.

GLENDALE COMMUNITY COLLEGE

Legend

100	Administration
200	Student Office
300	Materials Center
500	Classroom Building
600	Business Education
700	Faculty Offices
800	Faculty Offices
900	Faculty Offices
1000	Performing Arts
1500	Classroom Building
1700	Music
1800	Fine Arts
1900	Science
2100	Nursing-- Life Science
2300	Technology
2400	Automotive Lab
2600	Student Center
2700	Student Services
2900	Gymnasium
2900	Gymnasium Annex (A)
3000	Locker Rooms
3200	Bath House
3300	Stadium



MESA COMMUNITY COLLEGE--FACILITIES

Location: 1833 West Southern Avenue, Mesa

Site: 140 acres

Capacity: Planned enrollment 5,000 DFTSE
Current enrollment 4,736 DFTSE

Planned teaching stations 116
Current teaching stations 103
(Includes 26 temporarily assigned stations)

Parking: Planned spaces 3,850
Current spaces 2,898

Total Existing Square Feet:

Building	Square Feet
Admissions, Bookstore, Administration, Student Center I, Student Center II	37,020
Business Education	20,448
Central Plant	9,408
Classroom Building	20,180
Greenhouse, Pot House, Storage	3,700
Gymnasium (1st phase)	27,052
Library	36,659
Life Science	9,408
Music	14,871
Physical Science	23,548
Stadium, Storage, Concession	3,000
Technology	22,458
Nursing, Life Science	18,646
Temporary Buildings:	
Drama	2,420
Physical Education	7,800
Portables	25,830
Classrooms	15,540
Performing Arts Center	17,463
Total Square Feet	315,451

Planned Additions and Expansion:

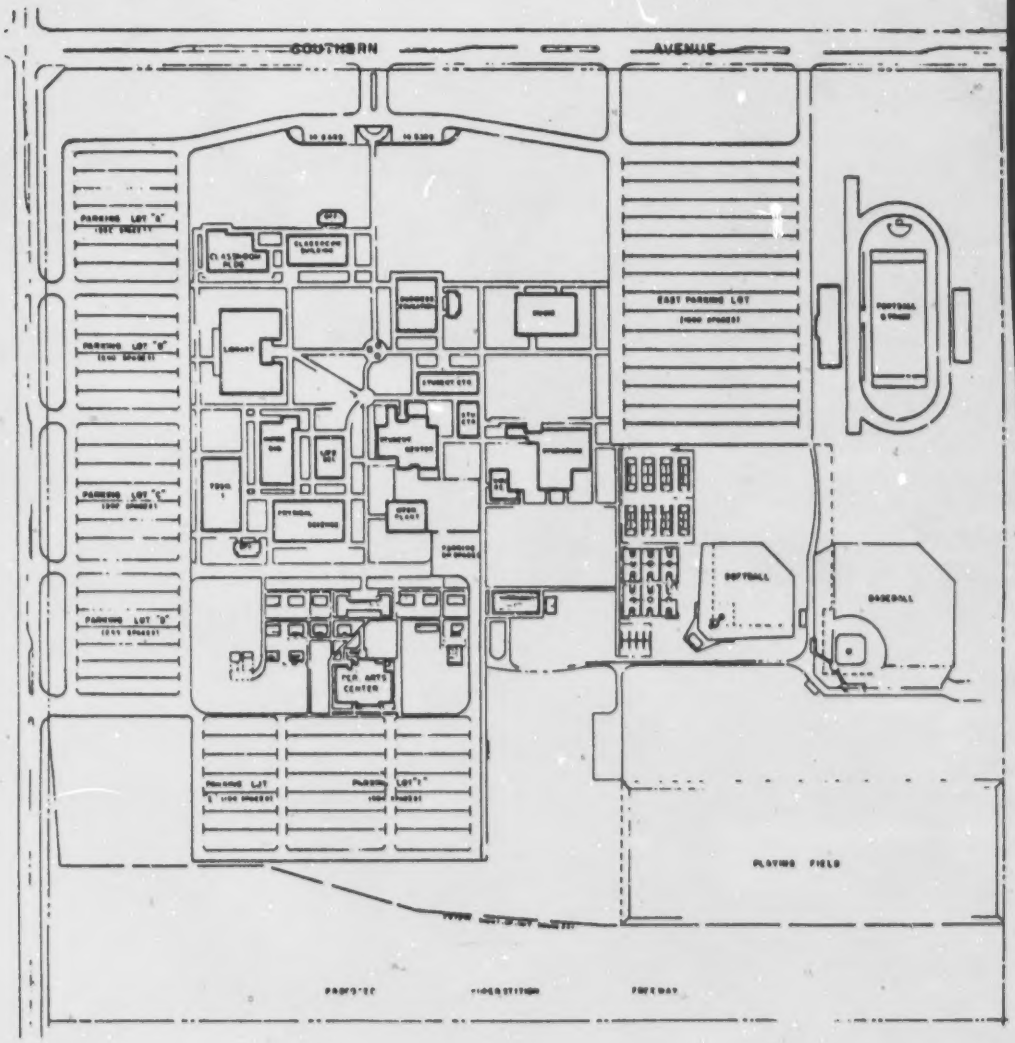
1. Expansion of Central Plant
2. Art facility
3. Business Education facility
4. Develop Education Center
5. Vocational/Technical facilities
6. Remodel Technology and Physical Science Buildings
7. Completion of Gymnasium
8. Expansion of Student Center
9. Classroom building
10. Planetarium

Capital Investment (as of 6/30/77) $11,213,626.

MESA COMMUNITY COLLEGE

Facilities

Business Education
Classroom Buildings (2)
Gymnasium
Library
Life Science
Mechanical Plant
Music
Nursing--Biology
Performing Arts Center
Physical Science
Student Centers (3)
Technology
Women's Physical
Education



PHOENIX COLLEGE--FACILITIES

Location: 1202 West Thomas Road, Phoenix

Site: 55 acres

Capacity: Planned enrollment 5,000 DFTSE
Current enrollment 4,775 DFTSE
Planned teaching stations 107
Current teaching stations 116

Parking: Planned spaces 3,750
Current spaces 2,634

Total Existing Square Feet:

Building	Square Feet	Building	Square Feet
Administration	6,030	Gymnasium	53,900
Admissions	8,056	Home Economics, Psychology	13,800
Art	16,011	Liberal Arts	22,064
Auditorium	13,875	Library	33,936
Bons Hall	2,400	Music	13,950
Bookstore, Offices	10,560	Portables	8,984
Business, English	45,093	Technology	26,400
Central Plant	6,461	Science, Nursing	44,026
Compound Maintenance and Operations	2,500	Stadium, Concession Stand	500
		Stadium Press Box	600
Data Processing	8,801	Student Center	30,157
Technology, Law Enforcement	5,700	Performing Arts Center	18,389
Drama, Reading	5,700		
Greenhouse	400	Total Square Feet	398,293

Planned Additions and Expansion:

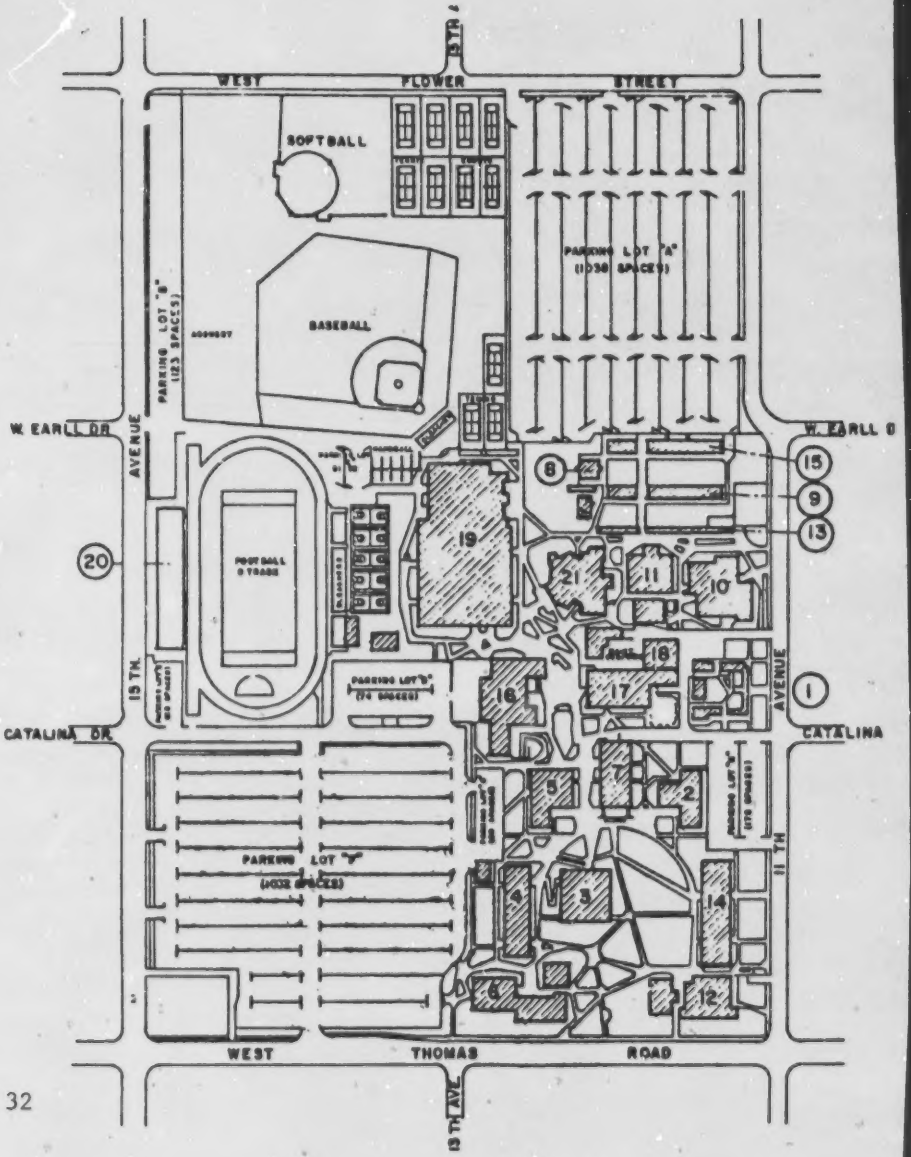
1. Remodel Admissions Building
2. Expand and remodel Administration facilities
3. Allied Health facilities

Capital Investment (as of 6/30/77) $16,087,629.

PHOENIX COMMUNITY COLLEGE

Legend

1 Administration
2 Admissions
3 Library
4 Liberal Arts
5 Data Processing
6 Business, English
7 Auditorium
8 Bons Hall
9 Drama, Reading
10 Music
11 Art
12 Science
13 Home Economics, Psychology
14 Technology
15 Law, Technology 2
16 Student Center
17 Bookstore
18 Mechanical Plant
19 Gymnasium
20 Stadium
21 Performing Arts Center



SCOTTSDALE COMMUNITY COLLEGE--FACILITIES

Location: Chaparral and Pima Roads, Scottsdale

Site: 160 acres (leased site)

Capacity: Planned enrollment 5,000 DFTSE
Current enrollment 2,381 DFTSE

Planned teaching stations 116
Current teaching stations 66
(Includes portable temporary buildings)

Parking: Planned spaces 4,200
Current spaces 2,156

Total Existing Square Feet:

Building	Square Feet
Central Plant	12,212
Gymnasium	42,317
Library	47,312
Music (metal building)	2,000
Science	38,456
Student Center	46,284
Technology	18,473
Portables	23,310
Performing Arts Center	17,951
Total Square Feet	248,315

Planned Additions and Expansion:

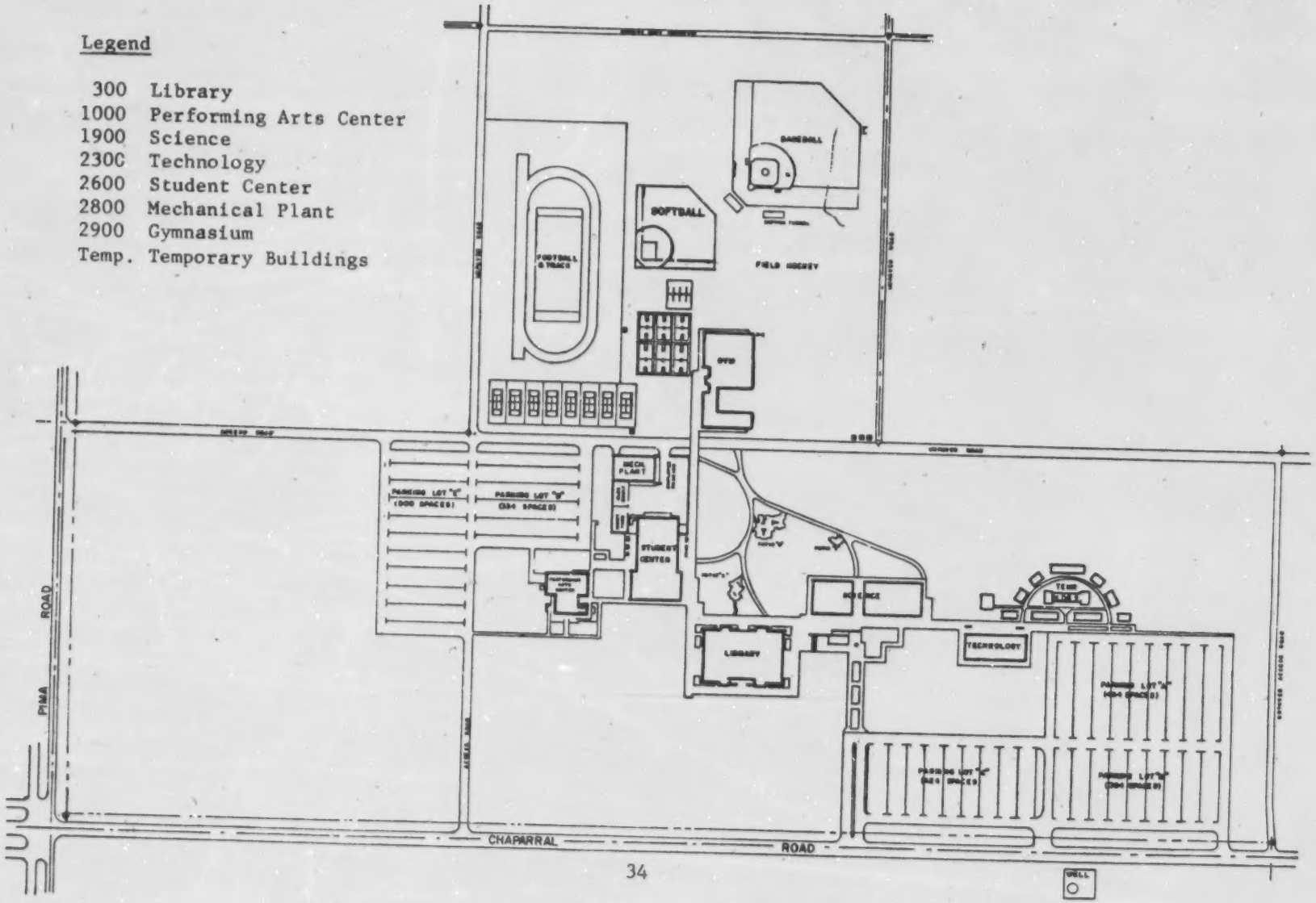
1. Music Building
2. Expand Central Plant
3. Nursing/Psychology facility
4. Fine Arts facility
5. Completion of Gymnasium facility
6. Business Education facility
7. Classroom facility (including faculty offices)
8. Administration facility
9. Educational Center--North Scottsdale

Capital Investment (as of 6/30/77) $10,099,059.

SCOTTSDALE COMMUNITY COLLEGE

Legend

300	Library
1000	Performing Arts Center
1900	Science
230C	Technology
2600	Student Center
2800	Mechanical Plant
2900	Gymnasium
Temp.	Temporary Buildings



Expansion of Maricopa Technical Community College

TAI finds a different level of educational planning problems with the District's facilities plans for Maricopa Tech. In TAI's estimation, several serious questions must be addressed before major facilities changes are initiated:

1. Will Maricopa Tech and South Mountain be joined in some fashion to serve the South Phoenix area? If so, what program and facilities impact will result?
2. Are the regional campuses to increase their vocational efforts? If so, what are the implications for MTCC?
3. Is MTCC to be expanded programmatically to offer a wider academic and general education program?
4. Will MTCC offer off-campus programs or will these be under Rio Salado?

In short, what is Maricopa Tech's future role in this District as part of the educational delivery system?

Because of these kinds of questions, TAI cannot support any major recommendations for facilities changes for MTCC at this time. Therefore none appear in this report but must await further educational planning by the District.

The Allied Health Center

Concerning the placement of the Allied Health Center, TAI agrees with the results of the initial study done by the District planning staff. Some arguments have been advanced for placing the center at MTCC to strengthen that institution (and conversely, to avoid weakening it by transferring its existing health programs to another campus).

However the major determinant in locating a program ought to be convenience and support for the students and staff. The only location affording these is PCC. Its location is convenient to the bulk of the area's hospitals and clinical facilities for ease of travel between campus and clinical assignments; PCC offers a full range of sciences and social services to support the various certificate and degree programs.

Further, as noted in the preceding section on MTCC, major facilities commitments of this kind should be avoided until the new directions for MTCC have been set.

Therefore, TAI recommends the construction of an Allied Health Center at PCC.

Rio Salado Community College

In April 1978 the Board approved the formation of RSCC to operate the off-campus programs throughout the Distirct. In effect this decision said that the other colleges would confine themselves to campus-focused programs, cooperating with RSCC in the development of off-campus or external programs needed in their service areas.

Figure 6 shows schematically how such a system can blanket the entire District with the other colleges pulling students into the formal campuses and Rio Salado taking programs to students throughout the county as its informal campus.

Rio Salado has the flexibility that is seldom available on a traditional campus. The seasonal resident, the Snowbird, can readily be accommodated on a schedule to meet the seasonal migrations. Sun City residents and others can be served in their own community facilities. Special programs like the Skills Center can operate readily within this more flexible administrative structure. The talent pool of the community can be drawn on as an almost unlimited reservoir to meet any community need.

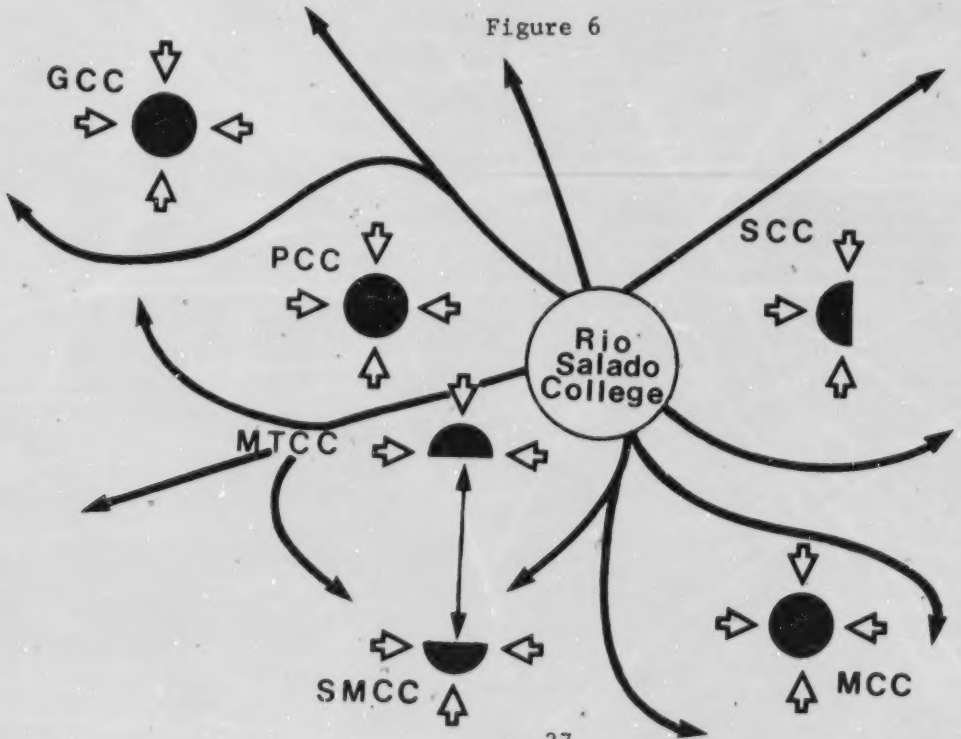
The smaller special area campuses can join RSCC as partners in providing community services they could not launch alone.

TAI commends the District for this move and recommends that a central location be sought for the RSCC headquarters. With the opening of South Mountain, some space should be freed up at MTCC, a prime central location.

TAI suggests that Rio Salado will not diminish the need for campuses and that if marketed aggressively, it may actually increase the attendance on the campuses by increasing the total visibility of the District.

Figure 6

RIO SALADO SERVICE AREA



The Regional Campuses

TAI recommends that MCCCD limit itself to three regional campuses in this planning phase to the year 2000. These campuses are Glendale Community College, Mesa Community College, and Phoenix Community College.

TAI further recommends that these campuses be expanded as planned to 5,000 capacity as rapidly as funding is available. Such expansion will allow the District to meet enrollment growth while new campus planning is undertaken. A capital needs program for this expansion has been developed by the District planning staff.

The Special Area Campuses

TAI recommends that the District plan to have in service by the year 2000 five special area campuses. These campuses are:

1. Scottsdale Community College--Operational
2. South Mountain/Maricopa Tech consortium--Open 1980
3. Litchfield/Goodyear area campus--Open 1990
4. South Mesa area campus--Open 1995
5. North Phoenix area campus--Open 2000.

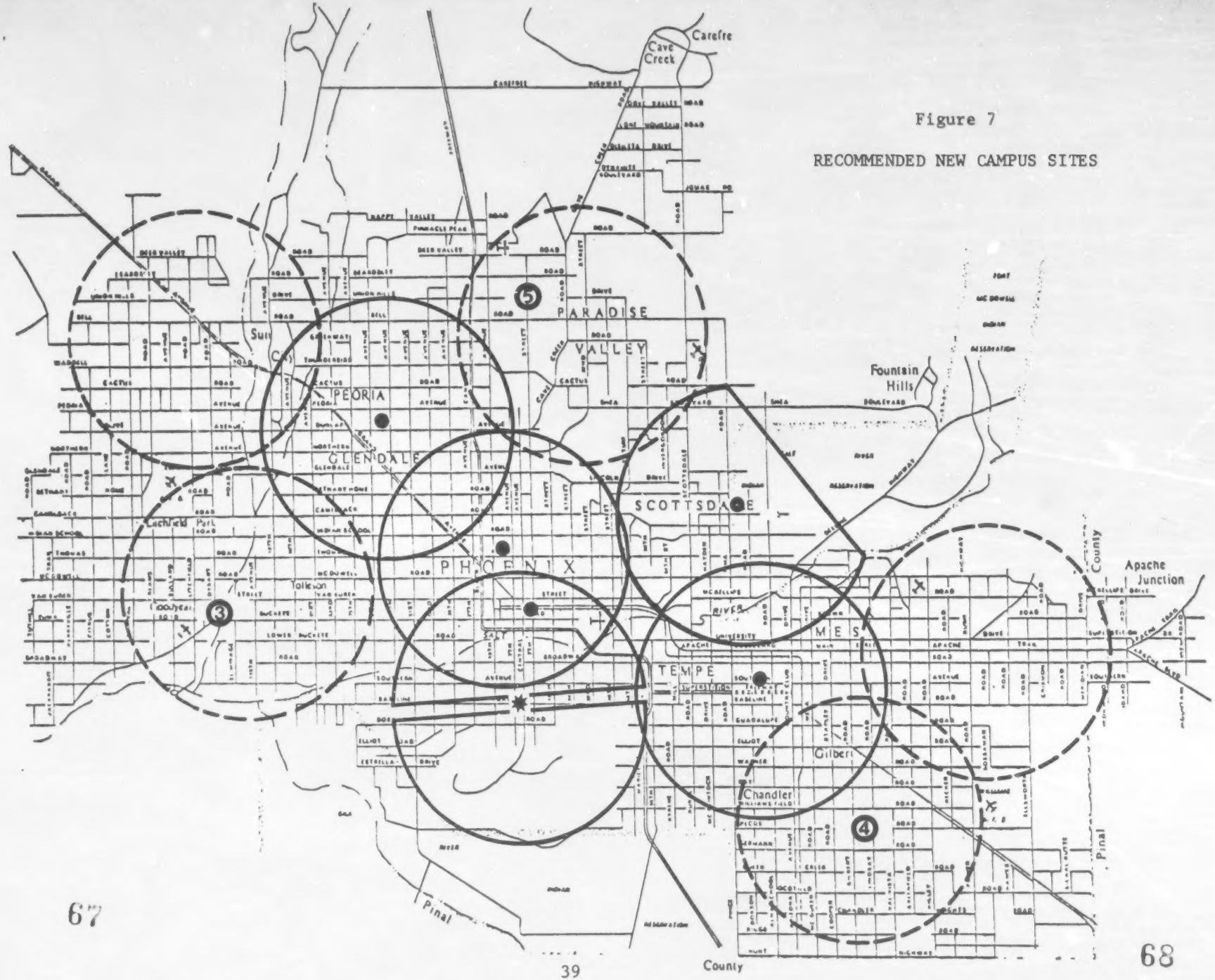
TAI recommends that the District secure options on sites in areas 3, 4, and 5 as quickly as possible to avoid any further inflation of land costs. The general service area for each new campus is indicated by the corresponding number on Figure 7.

Each of these three new campuses should be planned in such a way that it could be expanded to regional campus status if population growth in the service area warranted the change in status.

The South Mountain Community College does not fit the pattern of the others and is treated in the section following.

Figure 7

RECOMMENDED NEW CAMPUS SITES



South Mountain Community College

In April 1978, the Board of Trustees voted to create South Mountain Community College to serve the special needs of the South Phoenix area which includes Old Phoenix. In a preliminary oral report to the Board, TAI noted some of the critical elements which must be considered in making such a decision. The South Mountain service area includes--

- about 50 percent of the minority population in the District with a stronger representation of blacks in South Phoenix and a stronger representation of Spanish speaking in Old Phoenix
- the lowest average annual household income in the District
- a high percentage of long term residents and home owners
- an array of community services provided by both public and private agencies but geographically scattered throughout the area.

Further, the area is characterized by its lack of a community focal point from which community energies and leadership could be channeled to improve the quality of life of the residents of the area.

The area is in need of community renewal; and while the spirit is there to undertake the task, the financial base and an organizational structure to facilitate renewal for the area and the residents is missing. Some have expressed the hope that the building of a community college campus in the South Phoenix area will catalyze redevelopment there. Such efforts have not worked for Cleveland, Chicago, San Francisco, Oakland, or any other metropolitan area in TAI's experience. As one unit of a major renewal effort such a college will contribute to the total effort. But history does not show that a community college campus in and of itself will be a magnet to attract the financial forces needed for significant change in a community. Only major university campuses seem to have this impact.

Further, the District does not have the resources to undertake alone the renewal effort that is needed. If it is to assist the South Mountain area in any way other than token participation, it must seek out other agencies with whom it can join forces and resources in a common effort with the community.

Resources are not the only limiting factor. The population in the service area is too small to support a major campus, particularly when it is recognized that MTCC already draws a sizable number of the students from the area. If South Mountain is to be located in South Phoenix, then it will compete directly with MTCC for those students who live in the area. Both institutions will be affected adversely if such competition occurs.

Withal, however, TAI recommends very strongly that the District provide a broad spectrum of community college services in the South Phoenix area. There are many ways to accomplish this, but not all have major advantages for the community and for the District. For example--

- Rio Salado as the delivery system.

  Not recommended because

  1) too many in the community will see this as a makeshift solution
  2) it does not contribute to the community center focus that TAI sees as missing

- A separate stand-alone campus

  Not recommended because

  1) the population is too small to support a full range of programs and facilities
  2) there is little evidence that a campus in the central South Phoenix area could draw students from outside the area to increase enrollments

3) competition for the same population with MTCC would affect both campuses adversely.

- MTCC expanded to meet the needs of South Phoenix

  Not recommended because

  1) as a districtwide school, MTCC would not be identified as an agency to meet local needs
  2) in such service areas, vocational/technical schools have traditionally been looked on with suspicion as a means of denying upward mobility to minority students (TAI Note: We recommend such schools as one excellent means for achieving economic--that is, upward mobility. However, the suspicions across the country are so strong that this is probably not a viable alternative.)
  3) service and place identity are needed across the river as well as in the Old Phoenix area.

- A joint effort with city, county, and private agencies to provide a community educational and services center

  Recommended because

  1) it would provide a visible community center for a multitude of services
  2) it could bring joint funding, local and federal, for common use of library; parks and recreational, and sports areas; community meeting rooms; counseling and support services to individuals and families

- A sister campus relationship with MTCC

  Recommended because

  1) both campuses will draw from the same area
  2) South Mountain could provide the academic programs which MTCC does not have; MTCC could provide the vocational/technical programs which South Mountain should not duplicate
  3) shuttle bus service could be provided between the two which would allow them jointly to provide full services which neither alone could afford to initiate or sustain.

V CAMPUS DEVELOPMENT COSTS

As noted elsewhere, the District has already computed costs to upgrade Glendale, Mesa, Phoenix, and Scottsdale campuses. TAI finds no reason to doubt or change these figures.

For the costs of developing a new campus, the District planning office has made available a history of local campus development costs. Using these data, the costs in 1977 dollars to develop a new 2,000 day FTSE campus (the special area campus) would be as follows:

2,000 FTSE--200,000 square feet @ $50	$10,000,000
Land (site) 80 acres @ $12,500	1,000,000
Site Development/Contingency, etc.	1,000,000
Furniture/Equipment	2,500,000
Total	$14,500,000

If a campus of this configuration were planned for South Mountain (and TAI recommends that explorations be started immediately with other agencies, aimed at joint development with a lesser investment by MCCCD), then a conservative seven percent inflation factor would raise estimated costs to $16,600,000 by 1979.

By the time that the Litchfield/Goodyear campus is recommended for construction to open in 1990, then the District must presume that costs for the same quality of special area campus will be about doubled or $30,000,000.

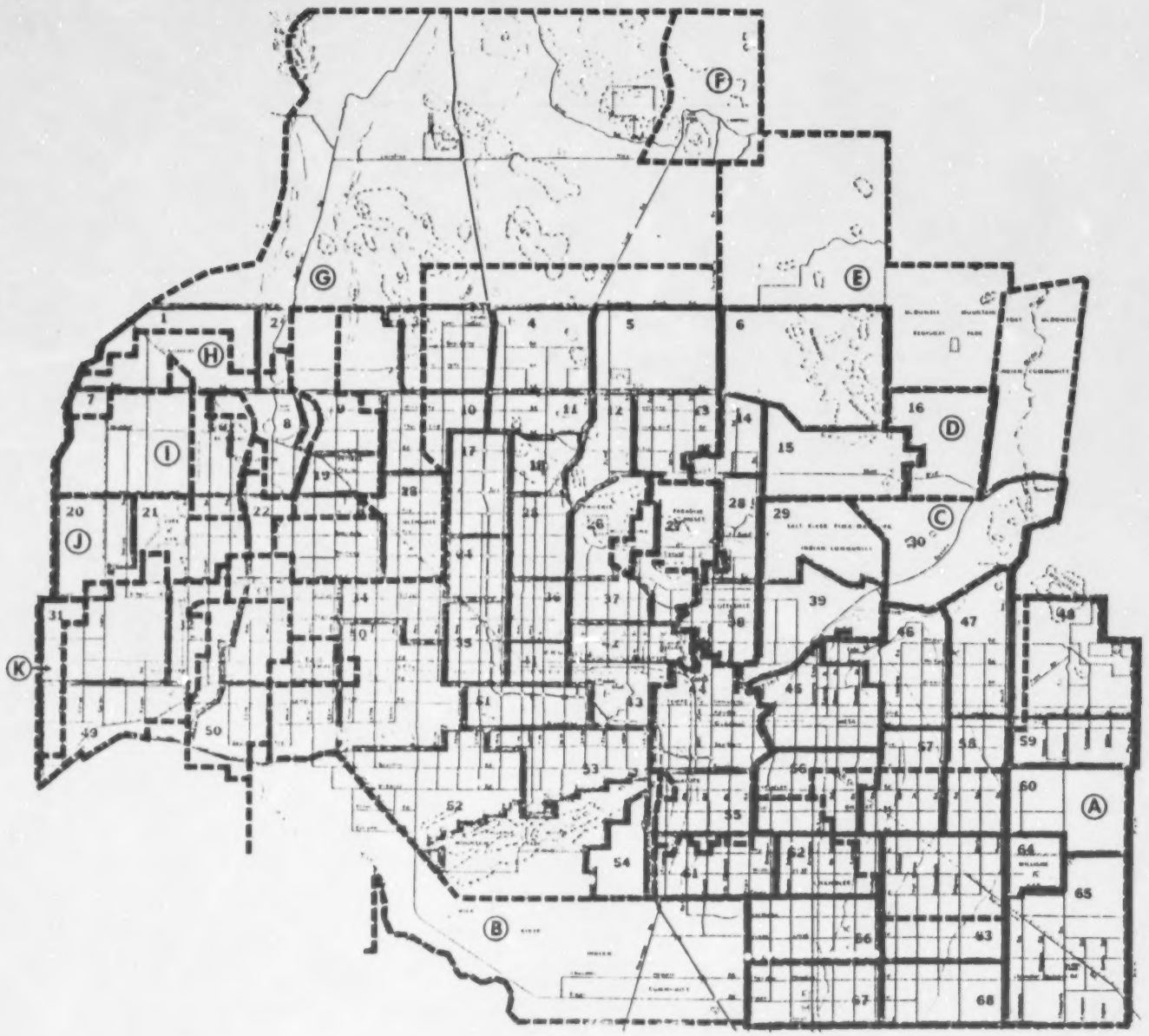
Thus to open South Mountain as a special service area campus and to open Litchfield/Goodyear in 1990, the District must be prepared to invest $46,000,000 in addition to the improvements suggested for the existing campuses to bring them up to capacity.

APPENDIX A

DEFINITIONS OF SERVICE AREAS

Figure A

MARICOPA COUNTY COMMUNITY COLLEGE SERVICE AREA



DEFINITIONS OF SERVICE AREAS

Almost every document TAI examined noted the increase in population in Maricopa County. The Maricopa Association of Governments has plotted this growth in five-year increments for major population centers and jurisdictional units within the county. Yet, the Maricopa County Community College District needs even more specific information than this to plan its future education programs and facilities.

In this appendix TAI defines six geographical regions whose boundaries encompass the population of college service areas. Wherever possible TAI has maintained the zones used by MAG--the municipal planning areas and the community aggregate planning model (CAPM) zones. (A partial zone is shown by "P".)

In addition, TAI examined the topographical and transportation boundaries which usually divide a large metropolitan area into communities and neighborhoods. In the Phoenix area, these boundaries include Interstate 10 and Interstate 17, the Salt River, Tonto National Forest, Phoenix South Mountain Park, North Mountain Park, Squaw Peak City Park, and the Salt River Indian Reservation.

The definition of each region is accompanied by a pictorial representation; the regional population from 1975 to 2000 A.D. appears on the succeeding page.

The information in the tables has been compiled by TAI using MAG and MCCCD data.

Figure A-1

GLENDALE SERVICE AREA

Generally speaking, the Glendale service area is bounded by I-17 to the east, Litchfield Road to the west, Carefree Highway to the north, and Olive Road to the south. The Glendale service area includes both MAG zones, represented by capital letters G, H, and I, and CAPM zones shown by numbers.

The table on the following page indicates the growth anticipated here. From 1975 to the year 2000 the population of this region is expected to more than double.

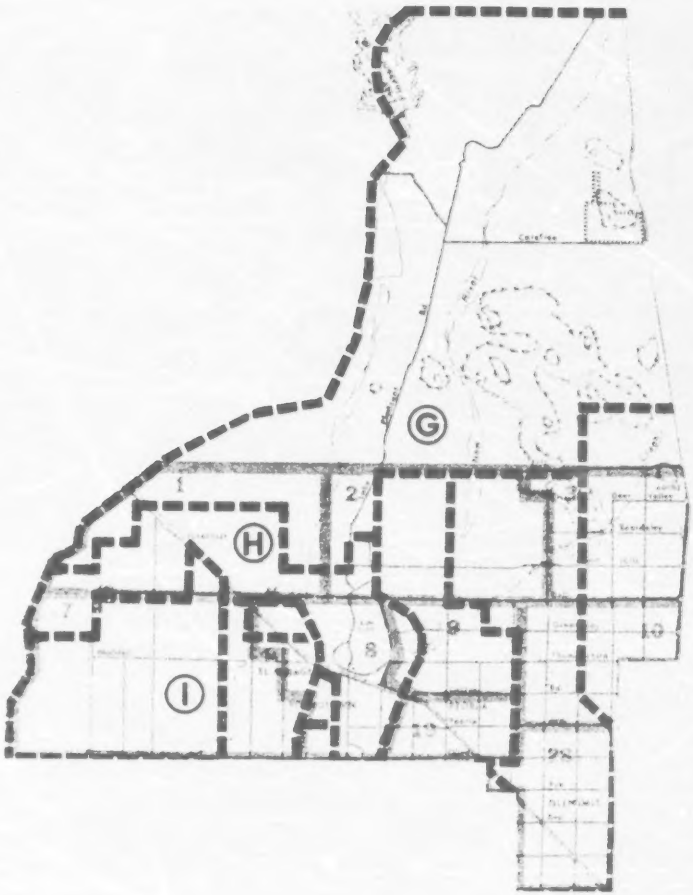


Table A-1

POPULATION OF GLENDALE SERVICE AREA 1975-2000

Jurisdiction	CAPM Zone	1975 Estimated	Projected 1980	1985	1990	1995	2000
El Mirage	7P	284	1,650	2,800	4,100	5,500	7,100
	8P	3,645	4,000	4,600	5,100	5,600	6,000
Glendale	2P	1,191	1,900	3,200	5,500	7,600	10,000
	3P	159	800	1,800	3,100	4,300	5,400
	9P	1,577	1,600	1,700	1,800	2,200	2,700
	10P	9,254	12,200	19,200	24,400	29,700	35,400
	23P	52,671	54,100	55,600	57,500	59,900	63,400
Peoria	2P	197	1,694	2,943	4,007	5,065	6,218
	9P	4,470	5,750	6,188	11,533	16,837	22,467
	19	8,260	11,507	13,070	19,097	25,090	31,556
	23P	60	87	102	382	660	951
Phoenix	3P	6,096	9,000	16,000	23,000	27,000	31,600
	10P	18,732	23,000	27,000	30,000	31,000	32,000
Surprise	8P	3,400	3,600	3,700	4,700	5,700	6,800
Youngtown	8P	2,000	2,000	2,000	2,000	2,100	2,200
Maricopa County Area							
G	1P	125	200	300	350	400	500
	2P	0	50	400	600	800	1,000
	X	2,000	2,150	2,285	3,050	3,800	4,800
H	1P	1,605	6,246	14,510	22,542	29,490	37,000
	2P	1,884	4,915	10,900	10,900	10,900	10,900
	8P	25,600	26,800	28,000	28,000	28,000	28,000
	9P	3,370	7,120	7,500	8,024	8,164	8,500
	7P	10	19	40	1,734	3,346	5,000
I	7P	449	500	605	800	1,000	1,300
J	8P	55	82	109	160	171	201
Totals		147,094	180,970	224,552	272,379	314,323	360,993

Figure A-2

LITCHFIELD/GOODYEAR SERVICE AREA

The Litchfield/Goodyear service area presently sends a large number of students to Glendale Community College. This area lies immediately south of Glendale and is bounded by 43rd Avenue to the east, Jackrabbit Road to the west, Olive Road to the north, and the Salt River to the south.

MAG zones, represented by capital letters J and K and the CAPM zones shown with the numbers, comprise the Litchfield/Goodyear area. The population of this area is forecast to grow from 120,190 in 1975 to 295,707 by the year 2000--more than twice its present population. (See Table A-2 on the following page.)

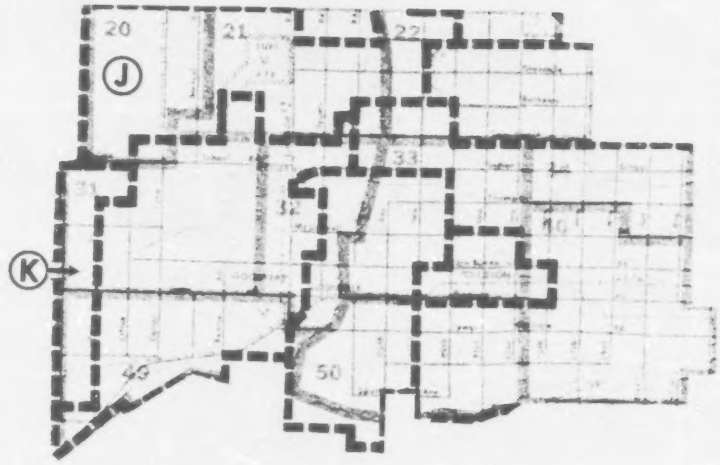


Table A-2

POPULATION OF LITCHFIELD/GOODYEAR SERVICE AREA 1975-2000

Jurisdiction	CAPM Zone	1975 Estimated	Projected 1980	1985	1990	1995	2000
Avondale	32P	6,210	6,250	6,400	8,135	9,920	11,835
	33P	865	1,100	3,300	8,704	14,123	19,757
	50P	4,330	4,350	4,400	4,461	4,557	4,708
El Mirage	21P	25	50	100	200	300	400
Glendale	22P	6,440	9,400	16,200	23,500	30,700	37,900
Goodyear/ Litchfield Park	21	0	0	0	0	0	0
	31P	306	450	1,490	2,750	4,020	5,400
	32P	4,928	5,940	7,260	14,650	22,030	29,700
	49P	511	610	650	700	750	800
Peoria	22P	315	762	1,097	2,881	4,648	6,508
Phoenix	21P	2	0	0	100	100	100
	22P	59	100	400	700	800	900
	32P	30	0	100	100	100	100
	33P	6,175	9,000	13,000	22,000	30,000	41,400
	34	62,373	64,000	65,000	66,000	66,500	66,700
	40P	15,078	18,000	21,000	26,000	32,000	38,800
	50P	578	700	900	1,000	1,100	1,200
Tolleson	33P	3,763	4,082	4,675	9,350	14,000	18,900
	40P	15	18	25	50	100	100
Maricopa County Area							
J	20	148	158	164	168	172	176
	21P	6,529	6,500	6,555	6,564	6,573	6,582
	22P	155	260	362	708	884	1,141
K	31P	981	1,218	1,500	1,648	1,785	1,923
	49P	394	432	485	552	615	677
Totals		120,190	133,380	155,063	200,921	245,777	295,707

Figure A-3

MESA/TEMPE SERVICE AREA

Bounded by I-10 to the west, Meridian Drive to the east, Beeline Highway to the north, and Hunt Highway to the south, the Mesa region encompasses the cities of Mesa, Tempe, Gilbert, Chandler, and Williams.

A MAG zone, shown by capital letter A, and CAPM zones indicated by numbers, have been maintained intact. There are no partial zones in this region.

MAG forecasts a dramatic increase in population for this area over the next two decades. In 1975, the population was 276,600 but by the year 2000 it is expected to increase to 622,600. (See Table A-3 on the next page.)

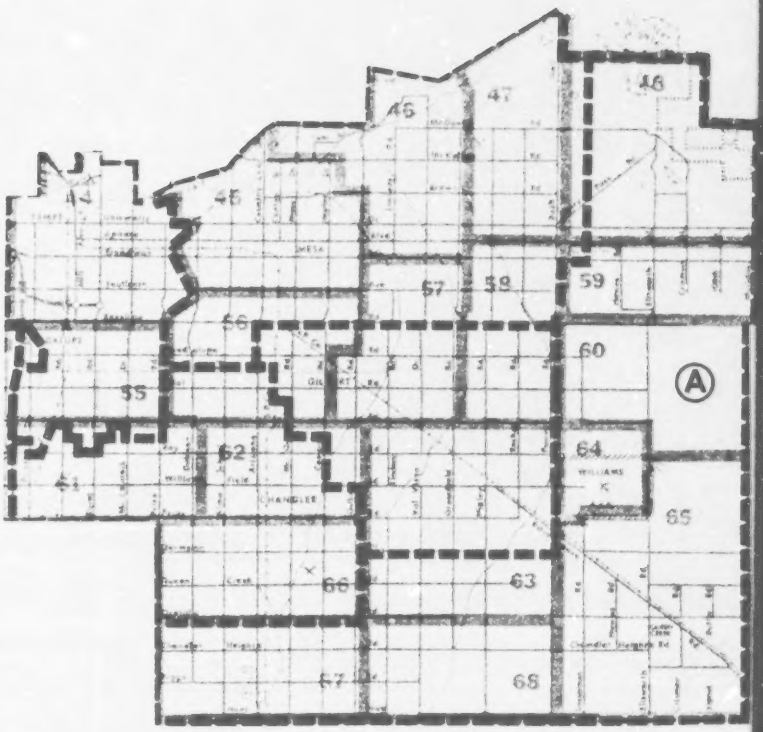


Table A-3

POPULATION OF MESA/TEMPE SERVICE AREA 1975-2000

Jurisdiction	CAPM Zone	1975 Estimated	Projected 1980	1985	1990	1995	2000
Chandler	56P	565	1,692	3,107	7,287	11,458	15,808
	66	920	1,148	1,570	2,408	3,249	4,139
	61P	793	2,587	4,819	13,110	21,377	29,984
	62P	20,218	24,573	33,004	35,995	39,116	42,769
Gilbert	56P	528	1,160	1,803	4,737	7,641	10,702
	57P	3,925	6,124	8,380	14,138	19,838	25,938
	58P	860	1,140	1,431	2,121	2,805	3,545
	62P	333	423	606	798	989	1,198
	63P	1,445	1,953	2,480	3,006	3,527	4,117
Guadalupe	55P	4,285	4,500	5,000	6,000	6,900	8,000
Mesa	45	74,141	77,700	83,500	84,700	86,200	89,000
	46	18,104	18,900	20,100	25,200	30,200	35,800
	47	11,068	12,100	13,400	16,000	18,700	21,600
	48P	216	500	900	1,400	2,000	2,500
	56P	8,101	17,900	28,100	32,000	36,000	40,500
	57P	895	3,100	5,300	9,400	13,500	17,800
	58P	3,583	5,900	8,300	10,400	12,500	14,800
	59P	991	1,100	1,200	1,300	1,400	1,500
Phoenix	55P	1,442	2,500	3,500	4,500	5,500	6,200
	61P	27	500	1,000	2,000	3,000	3,400
Tempe	44	79,436	92,300	110,700	111,000	111,400	113,500
	55P	14,464	32,200	47,400	52,200	56,600	62,100
	61P	163	2,300	4,600	5,400	7,100	8,400

Table A-3 (Cont'd.)

Maricopa County Area	CAPM Zone	1975 Estimated	1980	1985	1990	1995	2000
A	48P	7,125	8,359	9,603	10,463	11,130	11,887
	59	15,255	17,218	19,202	22,936	26,250	29,757
	60	110	170	229	292	349	409
	63P	433	471	508	566	613	666
	64	3,280	3,338	3,400	3,469	3,472	3,507
	65	1,600	1,649	1,700	1,817	1,901	2,000
	67	1,489	2,867	4,248	6,275	8,186	10,151
	68	805	828	850	882	899	923
Totals		276,600	347,200	429,940	491,800	553,800	622,600

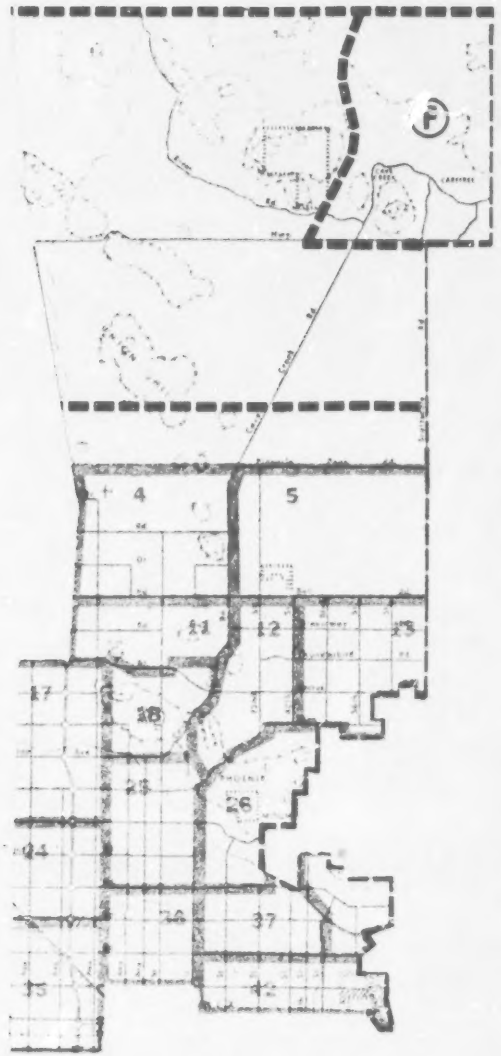
Figure A-4

PHOENIX SERVICE AREA

The Phoenix service area has the largest population of any of the six regions. Scottsdale Road is its eastern boundary, I-17 the western boundary, the Union Hills are the boundary to the north, and Van Buren Street is the boundary to the south.

This service area is made up of CAPM zones, represented by numbers on the accompanying map.

Using MAG population predictions which appear on the next page, the District can expect an increase in this service area of almost 200,000 between 1975 and the end of the century.



A-10

Table A-4

POPULATION OF PHOENIX SERVICE AREA 1975-2000

Jurisdiction	CAPM Zone	1975 Estimated	Projected 1980	1985	1990	1995	2000
Phoenix	4	13,113	17,000	24,000	32,000	40,000	47,800
	5	4,005	5,000	8,000	14,000	25,000	38,400
	11	10,509	17,000	24,000	29,000	32,000	34,400
	12	32,368	34,500	36,000	37,000	38,000	38,900
	13	10,719	17,000	26,000	33,000	40,000	43,600
	17	65,862	67,000	68,000	69,000	70,000	70,400
	18	18,668	20,000	21,000	22,000	23,000	23,300
	24	53,067	53,200	53,300	53,400	53,500	53,600
	25	60,767	61,100	61,400	61,700	62,000	62,400
	26P	13,798	16,000	19,000	20,500	22,000	22,300
	27P	14,508	14,700	14,900	15,000	15,200	15,300
	35	43,130	42,000	40,500	39,000	38,000	37,100
	36	43,480	44,500	45,500	47,500	51,000	57,200
	37	43,016	43,200	43,300	43,500	43,700	43,900
	42	47,987	48,500	49,500	51,000	53,000	55,700
Area not included in CAPM boundary		1,067	1,500	2,000	3,000	4,000	5,100
Maricopa County Area							
F	X	2,170	2,800	4,045	5,800	8,300	9,000
Totals		478,234	505,000	540,445	576,400	618,700	658,400

Figure A-5

SCOTTSDALE SERVICE AREA

With the McDowell Mountains to the north and the Salt River Indian community to the east, the population of the Scottsdale service area is concentrated in Scottsdale and Paradise Valley. The Salt River forms a natural boundary to the south and the Phoenix Mountains are the natural western boundary.

MAG zones, shown by capital letters C, D, and E, and CAPM zones shown by numbers, make up the Scottsdale region.

Although the population of the Scottsdale service area is expected to increase (see Table A-4 on the next page), the topography here limits the ultimate growth of the area.

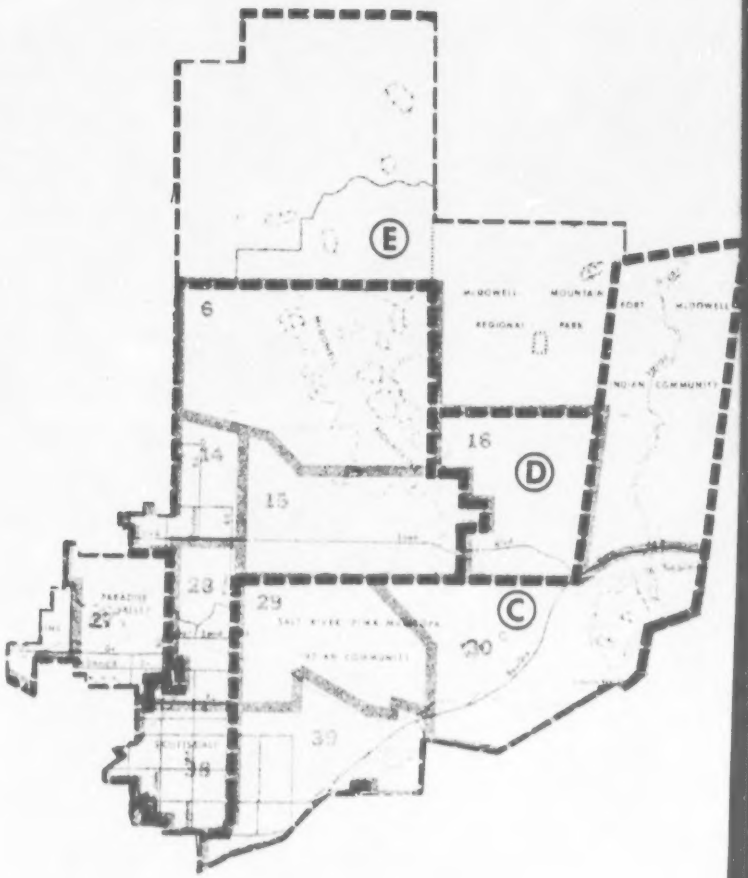


Table A-5

POPULATION OF SCOTTSDALE SERVICE AREA 1975-2000

Jurisdiction	CAPM Zone	1975 Estimated	Projected 1980	1985	1990	1995	2000
Paradise Valley	26P	2,408	3,013	3,692	3,784	3,899	4,062
	27P	9,124	10,487	12,108	12,416	12,801	13,338
Scottsdale	6	0	0	0	800	1,300	2,500
	14	4,589	5,900	6,500	6,400	6,900	7,600
	15	681	1,700	5,100	8,600	12,000	14,300
	28	15,821	21,800	24,700	25,100	25,700	27,000
	38	56,974	55,100	56,400	55,700	54,800	55,000
Maricopa County Area							
C	29	30	30	30	30	30	30
	30	0	25	50	70	70	70
	39	1,850	1,910	1,940	1,950	1,950	1,950
	X	320	335	345	350	350	350
D	16	1,497	5,000	7,005	10,000	15,000	22,500
E	X	238	350	475	800	1,200	1,800
Totals		93,532	105,650	118,345	126,000	136,000	150,500

Figure A-6

SOUTH MOUNTAIN SERVICE AREA

Like the Scottsdale service area, the South Mountain region is defined by obvious boundaries--to the east I-10, to the west the Salt River, to the north Van Buren Street, and to the south the Maricopa County line.

Only MAG zone B, the Gila River Indian community, falls within the South Mountain region. Most of South Mountain is comprised of CAPM zones indicated with letters on the accompanying map.

The South Mountain area can expect moderate growth relative to other sections of the county. (See Table A-6 on the next page for population forecasts to the year 2000.) However, South Mountain's natural barriers preclude rapid growth.

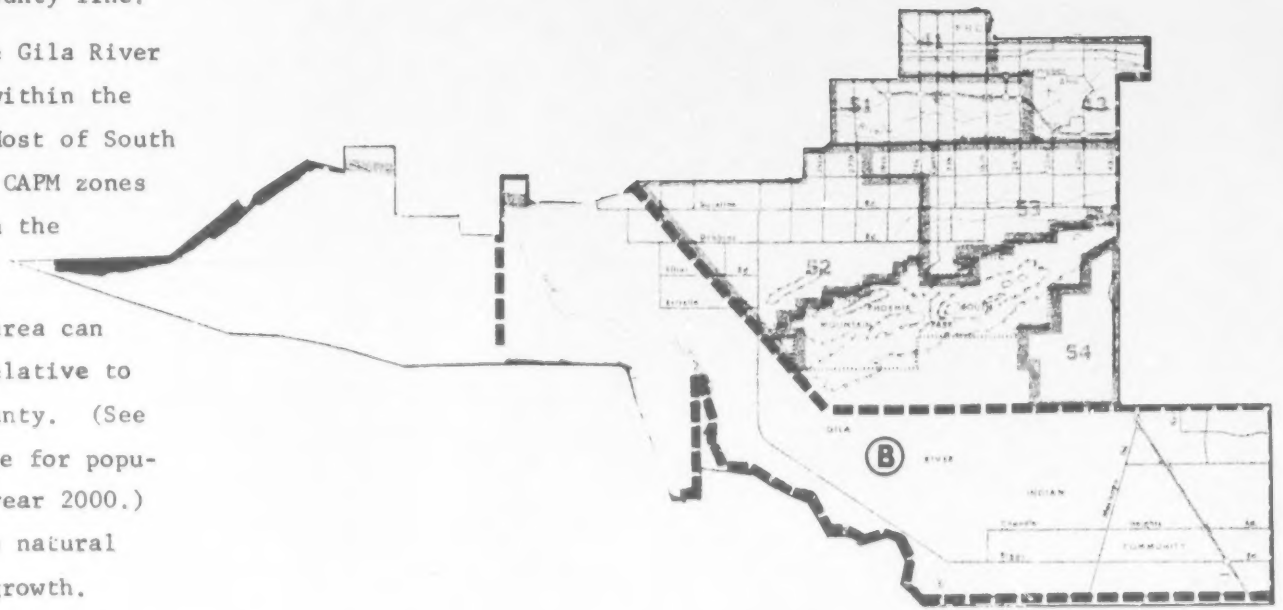


Table A-6

POPULATION OF SOUTH MOUNTAIN SERVICE AREA 1975-2000

Jurisdiction	CAPM Zone	1975 Estimated	Projected 1980	1985	1990	1995	2000
Phoenix	41	27,513	27,700	27,900	28,100	28,300	28,500
	43	9,785	6,500	3,500	2,900	2,400	2,100
	51	20,529	16,000	14,000	13,000	12,500	12,100
	52	9,502	11,000	14,000	19,000	24,000	36,000
	53	44,928	47,000	50,000	53,000	56,000	59,800
	54	113	3,700	8,700	14,300	21,700	31,800
Maricopa County Area							
B	X	1,300	1,400	1,400	1,400	1,500	1,500
Totals		113,670	113,300	119,500	131,700	146,400	171,800

APPENDIX B

DATA SOURCES

DATA SOURCES

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